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MIL-STD-2525
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DEPARTMENT OF DEFENSE INTERFACE STANDARD

COMMON WARFIGHTING SYMBOLOGY
VERSION 1



AMSC N/A

AREA INST

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FOREWORD

1. This interim military standard is approved for use by all Department of Defense (DOD) departments and agencies. Its development has been based on North Atlantic Treaty Organization (NATO) Standardization Agreement (STANAG) 2019, APP 6, "Military Symbols for Land Based Systems," U.S. Army Field Manual (FM) 101-5-1, *Operational Terms and Symbols*, STANAG 4420, "Display Symbolology and Colors for NATO Maritime Units," and symbology used in the Navy Tactical Data System (NTDS) and the Joint Tactical Information Distribution System (JTIDS). Through the benefit of Human Factors Engineering research, this interim MIL-STD is designed to eliminate conflicts within various symbol sets, and to bring a core set of common warfighting symbology under one DOD standard.

2. Land-based warfighting symbology has its roots in STANAG 2019 (APP 6) and U.S. Army FM 101-5-1. The symbols and graphics contained in these documents are used by commanders and staff at all echelons in the planning and execution of land based military operations. These symbols are used to support command and control functions in a force domain environment, representing land based units, installations, and equipment. The symbol designs were manually generated, two dimensional objects representing both thematic and topographical (point, lines, and area) features. These symbols were not designed for plotting naval or aeronautical tracks, military geographic information and documentation, or telecommunication diagrams.

3. Nautical and aeronautical warfighting symbology have evolved from the requirement to display tactical sea and air track data on automated command and control and weapons control systems more closely associated with the engagement domain. Aeronautical symbology has its roots in the JTIDS while nautical symbology has developed from NTDS symbology. Although not yet ratified by the U.S., STANAG 4420 is an attempt to provide a NATO standard representing air and sea track symbols. It is designed to support the command and control of dynamic, constantly moving sea and air tracks.

4. Standard symbology synthesized from both domains has become an increasingly essential ingredient in the successful implementation of the Command, Control, Communications, Computers, and Intelligence (C4I) for the Warrior (FTW) concept. Joint warfighting has strengthened the requirement for the rapid exchange of information by the C4I systems community, expanding into the weapons control or engagement domain. The need for C4I symbology standardization was recognized in the recent military operations in Southwest Asia and Somalia. The 30 August 1993 meeting of the Military Communications-Electronics Board (MCEB) recognized this requirement, including the need to develop a family of symbology standards to support C4IFTW. This family of symbology standards consists of this Common Warfighting Symbology MIL-STD (Version 1), a specification for development of a DOD symbology data repository, a symbol construction (automation) standard, and a number of special symbol sets such as weather and mapping. This MIL-STD (Version 1) is designed to equip DOD with a standard solution that provides basic symbol frame shapes, a set of C4I symbols, a coding scheme for symbol automation, an information hierarchy, and a base set of rules for their application. As with any interim MIL-STD, it is designed to be replaced, with minimal impact, by a final version that will provide a more definitive comprehensive set of symbols to support C4IFTW.

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5. Beneficial comments (recommendations, additions, deletions) and any pertinent data that may be useful in improving this document should be addressed to the Defense Information Systems Agency (DISA), Joint Interoperability and Engineering Organization (JIEO), Center for Standards (CFS), ATTN: Information Directorate, Parkridge III, 10701 Parkridge Blvd, Reston, VA 22091-4398. Use the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document, or send a letter.

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1. SCOPE

1.1 Scope. This standard prescribes a set of common warfighting symbols along with basic application and display rules for Department of Defense (DOD) Command, Control, Communications, Computer, and Intelligence (C4I) system operations, system development, and training. These symbols are designed to enhance DOD's joint warfighting interoperability by providing a standard set of common C4I symbols. It is the first in a projected family of symbology standards for the warfighter.

1.2 Organization and content. The requirement to standardize C4I warfighting symbology was recognized at the 30 August 1993 meeting of the Military Communications-Electronics Board (MCEB), recognizing the need for a family of symbology standards to support C4I for the Warrior (FTW) concept. This family of symbology standards, illustrated in Figure 1, consists of a set of documents to include a warrior's symbology standard in two versions that provide a core set of symbols and display rules for C4I, configuration management of symbology standards, a DOD symbology database, a symbol construction standard (along with government owned open system environment software for symbol construction and use), and an increasing number of special symbol set standards. Version 1 is a near term or interim solution providing basic rules for symbol usage and a core set of symbols for future C4I systems and applications. Version 2 is the long term solutions providing a definitive set of symbol rules and a more complete set of symbols for C4I systems.

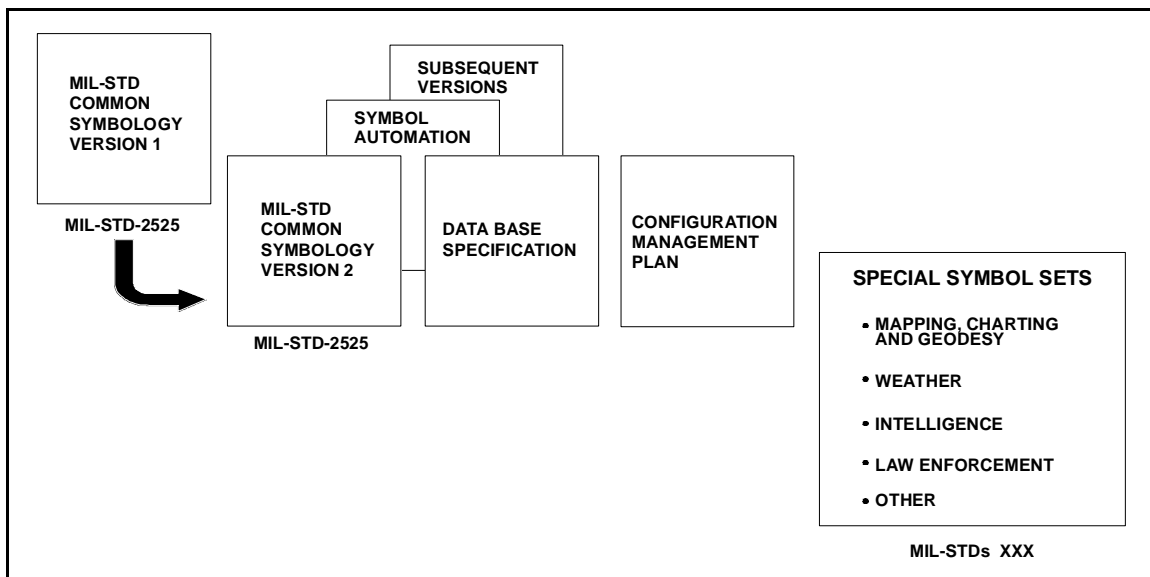


FIGURE 1. Family of symbology standards.

This MIL-STD combines the symbology from two separate usage domains referred to as the "force domain" and "engagement domain." Both domains use warfighting symbology in support of their C4IFTW functions. When integrated, these symbols provide a starting point toward a final standard solution for C4IFTW symbology. Symbology used in the "force domain" has evolved from North Atlantic Treaty Organization (NATO) Standardization Agreement (STANAG) 2019 (APP 6), "Military Symbols for Land Based Systems," and U.S. Army Field Manual (FM) 101-5-1, *Operational Terms and Symbols*. Commanders and staff at all echelons use the symbols and graphics in these documents in the planning and execution of land based military operations. These symbols represent units, installations, and equipment and are used in automated C4I systems or to mark maps and overlays manually. Symbology used in the "engagement domain" has evolved from the requirement to plot sea and air tracks on cockpit, radar, weapons control, and command and control tactical displays. Both Joint Tactical Information Distribution System (JTIDS) and Navy Tactical Data System (NTDS) symbology, and most recently STANAG 4420, "Display Symbology and Colors for NATO Maritime Units," have been the primary sources for track symbols used within this domain. In addition, MIL-STD-1295 and MIL-STD-1787B have been developed to provide standards guidance regarding rotary and fixed wing cockpit displays. These documents represent many years work by the U.S. military and international community and are well representative of the requirements of the DOD. Version 1 of this MIL-STD is an attempt to combine symbology used in both domains to provide a set of warfighting symbols for the C4IFTW community.

1.3 Applicability. This MIL-STD applies to all DOD components directly or indirectly involved with C4IFTW operations, system operations, system development, and training within the context of warfighting operations. The standard will serve as the standard symbol set for all future DOD uses of C4IFTW symbology. It does not apply to the application of mapping/charting, weather, cockpit display, or engineering design symbology. It applies to all future use of symbols in two dimensional and electronic display system C4IFTW environments.

1.4 User instructions. This MIL-STD is designed to provide both general and detailed requirements necessary for the development and display of standard C4I warrior symbology. It contains tables that provide the user with the basic frame shapes (Tables 1 and 2) and over 300 icons (Table 11), along with guidelines for their use. Each of the icons listed in Table 11 are cross referenced to the hierarchy and the symbol coding scheme appendices, Appendix A and B, respectively. The symbol hierarchy contained in Appendix A provides an organization or structure for C4I warrior symbology. Each symbol category or icon contains a number that is cross referenced to a symbol coding scheme in Appendix B. A tactical graphics section, which addresses lines, areas, and boundaries, is also provided.

The coding scheme is used in the Army Space Program Office Graphical Situation Display (GSD) software package. The icon construction software module of this package is intended for use by future and migrating C4I system developers as an efficient method for storing drawing instructions vice graphic images in the C4I system. The drawing instruction in the GSD package uses the symbol coding scheme in this standard.

Symbols should comply with the National Imagery Transmission Format Standards (NITFS) when formed and transmitted. The Computer Graphic Metafile (CGM) implementation of NITFS should be used for input interpretation and output generation of symbol representations (Military Standard

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2301). Military Standard 2500 should be used for forming digital symbology and exchange among users. The symbol coding scheme in this standard should be the preferred code for all symbol transmissions in the DoD. If necessary, the coding scheme may be translated at the user system; however, to ensure interoperability a common code for warrior symbols is necessary and is made standard in this document.

It should be noted that Table 11 does not contain all of the possible icons listed in the hierarchy, as this is only an interim MIL-STD. All tactical graphics are also not included. Also, there are special symbol sets which are in various stages of development. Additional icons, refinement of the hierarchy, refinement of the coding scheme, and additional tactical graphics will be developed in Version 2 of this standard. Special symbol sets will be released as they are developed.

(Note: A United States Message Text Format (USMTF) is being developed and will be an option for the transmission of symbol codes.)

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified. Unless otherwise specified, the issue of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and its supplement, cited in the solicitation.

STANDARDS

MILITARY

MIL-STD-2301	-	Computer Graphics Metafile (CGM) Implementation Standard for the National Imagery Transmission Format Standard (NITFS), 18 June 1993.
MIL-STD-2500	-	National Imagery Transmission Format (Version 2.0) for the National Imagery Transmission Format Standard, 18 June 1993
MIL-STD-1472D	-	Human Engineering Design Criteria for Military Systems, Equipment, and Facilities, June 1992.
MIL-STD-1477A	-	Symbols for Army Air Defense System Displays, 29 September 1989.
MIL-STD-1787B	-	Aircraft Display Symbology, 31 July 1987.
MIL-STD-1295A	-	Design Criteria for Helicopter Cockpit Electro-Optical Display Symbology, 26 June 1984.

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, 700 Robbins Avenue, Building #4, Section D, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified. Unless otherwise specified, the issues are those cited in the solicitation.

DOD Human Computer Interface (HCI) Style Guide, Version 2.0, 30 September 1992.

Joint Publication 1-02	-	Department of Defense Dictionary of Military and Associated Terms, 1 December 1989.
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Joint Publication 3-56	-	Tactical Command and Control Planning Guidance and Procedures for Joint Operations, October 1985.
Joint Publication 6-04	-	US Message Text Formatting Program, Change 7, 1 October 1993.
Joint Publication 6-03.6	-	Doctrine for Joint Operations Planning System, October 1976.
FM 101-5-1	-	Operational Terms and Symbols, October 1985.
STANAG 1241	-	NATO Standard Identity Description for Tactical Use, 17 July 1981.
STANAG 2019, APP-6	-	Military Symbols for Land Based Systems, July 1986 (U.S. ratified).
STANAG 4420	-	Display Symbolology and Colors for NATO Maritime Units (Edition 1) (Not U.S. ratified).
Q-STAG 509	-	Military Symbols (American, British, Canadian, and Australian Armies Standardization Program), 5 March 1979 (U.S. ratified).

(Joint Publications may be obtained from the Joint Staff, Washington, D.C. 20318-7000. Draft FM 101-5-1 can be obtained through the US Army AG Publications Distribution Center, 2800 Eastern Boulevard, Baltimore, MD 21220-2898.

2.2 Non-Government publications. The following documents form a part of this document to the extent specified. Unless otherwise specified, the issue of the documents that are adopted by DOD are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation.

None referenced.

(Non-Government standards and other publications are usually available from the organizations that prepare or distribute them. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. DEFINITIONS

3.1 Acronyms used in this standard. The acronyms used in this standard are defined as follows.

a. C4I	Command, Control, Communications, Computers, and Intelligence
b. C4IFTW	C4I for the Warrior
c. CGM	Computer Graphics Metafile
d. CINC	Commander in Chief
e. C/S/A	CINC/Service/Agency
f. DOD	Department of Defense
g. FM	Field Manual
h. DIA	Defense Intelligence Agency
i. DISA	Defense Information Systems Agency
j. DMA	Defense Mapping Agency
k. DODISS	Department of Defense Index of Specifications and Standards
l. DRPR	Drawing Practices
m. GSD	Graphical Situation Display
n. HCI	Human Computer Interface
o. HFAC	Human Factors Engineering
p. IFF	Identification Friend or Foe
q. INST	Information Standards and Technology
r. JTIDS	Joint Tactical Information Distribution System
s. MC&G	Mapping, Charting, and Geodesy
t. NATO	North Atlantic Treaty Organization
u. NITFS	National Imagery Transmission Format Standard
v. NTDS	Navy Tactical Data System
w. SIF	Selective Identification Feature
x. SSMC	Symbology Standards Management Committee

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- y. STANAG Standardization Agreement
- z. SWG Symbology Working Group
- aa. QSTAG Quadripartite Standardization Agreement

3.2 Definitions used in this standard. Terms used in this document are defined as follows.

- a. Assumed friend - A track which is assumed to be a friend because of its characteristics, behavior, or origin. (STANAG 1241)
- b. Attribute - A distinctive feature or characteristic such as line, shape, color, texture (fill), edge, mass, and value.
- c. C4IFTW - A vision or concept that provides the warrior at any time and place with a fused, real-time, true representation of the warrior's battlespace.
- d. Chromaticity - The aspect of color including the consideration of its dominant wavelength and purity.
- e. Engagement Domain - An environment that primarily is based on the command and control of weapons systems and designed to facilitate rapid identification and judgement based on the need to engage or not engage.
- f. Engineering Design Symbolology - Symbolology used to design, plan, and develop engineering drawings in the chemical, electrical, civil, mechanical, and structural engineering fields.
- g. Faker - A friendly track acting as a "suspect" track for exercise purposes only. (STANAG 1241)
- h. Fields - A combination of letters, numbers, and/or abbreviations grouped in and around the basic symbol to provide additional information.
- i. Footcandle - The unit of measure of illumination. The amount of light emitted by a standard candle measured one foot away from the candle equals one footcandle.
- j. FootLambert - The unit of measure of intensity of reflected or emitted light (luminance). The average luminescence of any reflecting surface in footlamberts is the product of the illumination in footcandles by the luminous reflectance of the surface.
- k. Force Domain - An environment that primarily is based on the command and control (management of the battlefield) of units and forces.
- l. Friend - A track belonging to a declared friendly nation. (STANAG 1241)
- m. Frame - A geometric form whose shape conveys symbol environment and identity. Frame may also be referred to as geometric border.
- n. Graphic - All products of the cartographic and photogrammetric art.
- o. Hostile - A track which is eligible to be engaged. (STANAG 1241)

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- p. Icon - A visual metaphor in the simplest form representing actual information.
- q. Icon identifier - A 12 - character alpha/numeric code based on a database structure that provides the minimum elements required to construct the basic icon and/or a complete symbol. Currently, the first nine characters of the code are defined. The last three characters are reserved for future use.
- r. Interoperability - The ability of systems, units, or forces to provide services to other systems, units, or forces and to use the services so exchanged to operate effectively together. (JCS Pub 1-02)
- s. Joker - A friendly track acting as a "hostile" track for exercise purposes only. (STANAG 1241)
- t. Luminance - The amount of light per unit area reflected from or emitted by a surface, measured in footcandles.
- u. MC&G Symbology - Symbology that represents natural and man-made features used in the production or display of maps, charts, and digital geospatial information.
- v. Meteorological Symbology - Symbology used in weather/climatic forecasting.
- w. Modifiers - A graphic modification to a symbol used to denote or represent specific information such as direction, size, or mobility concerning that symbol.
- x. Neutral - A track whose characteristics, behavior, origin or nationality indicate that it is neither supporting nor opposing friendly forces. (STANAG 1241)
- y. Pending - A track for which identification is to be determined. (STANAG 1241)
- z. Suspect - A track which is potentially hostile because of its characteristics, behavior, origin or nationality. (STANAG 1241)
- aa. Symbol - An object that presents information. (DOD Symbology Ad Hoc Working Group, 6 Oct 94)
- bb. Text - Alpha/numeric information used to define or designate further the meaning of a symbol.
- cc. Unknown - An evaluated track which has not been identified. (STANAG 1241)
- dd. Warfighting Symbology - Symbology used to plan and execute military operations in support of C4I functions.

4. GENERAL REQUIREMENTS

4.1 Objective. The use of warfighting symbology is migrating rapidly from a static, manual operation to fully automated, dynamic computer-generated displays. This has resulted in the development of many C4IFTW system-specific processes and applications that address the construction and display of electronic symbols and graphics developed to meet CINCs'/Services'/Agencies' (C/S/A's) mission requirements. The "C4I for the Warrior" concept, signed by the Chairman of the Joint Chiefs of Staff in June 1992, brings together C4I functions to provide the warfighter with a seamless, real time, true representation of his battlespace. Here, the standardization of common warfighting symbology will play an integral role in achieving interoperability during joint service operations. Symbology used in C4IFTW transcends all three parts of the hierarchy in the C4IFTW infrastructure, the "Warrior Terminal," "Warrior Battlespace," and "Infosphere."

4.2 Organization. This section is organized into two main parts. The first main part deals with composition of a symbol including the frame shapes used to identify affiliation and battle dimension, the icons that represent the object of interest, the modifiers, and the icon identifiers. The second main part explains the rules for the application and display of symbology.

4.3 Symbol Composition. This document defines a symbol as an object that conveys information. Full implementation of this definition requires a significant level of sophistication and complexity in the symbol. This is accomplished by constructing the symbol as a structure of component parts, each providing further clarifying information about the others. The totality of these components comprises the symbol. The components of the symbol, as shown in Figure 2, are the frame (geometric border), attributes (e.g. color, shape), icon, fields, and modifiers.

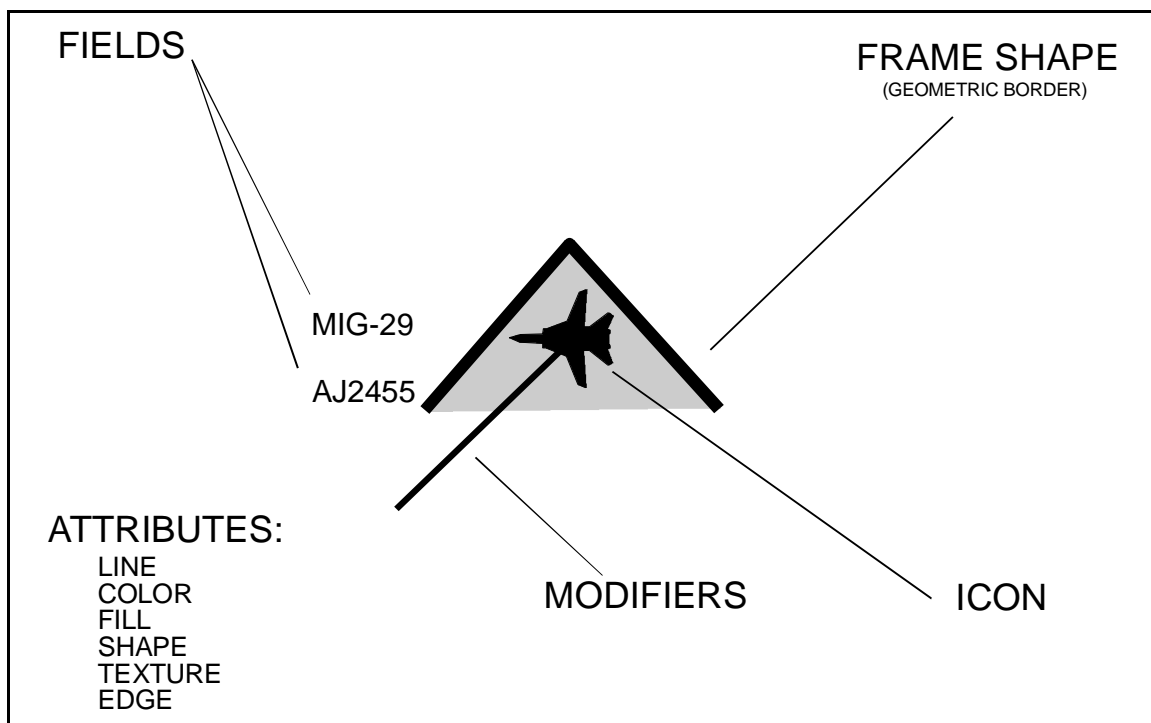


FIGURE 2. Symbol components.

4.3.1 Symbol frames (geometric borders). In most instances a frame (geometric border) will surround the basic icon, and will identify the battle dimension (land, sea surface, sea subsurface, or air) and the affiliation (hostile, friendly, unknown, or neutral). The interior of the frame may also be color filled as an optional, redundant for of identification, however, the frame will remain black.

4.3.2 Icon. The symbol's graphic component is the innermost part of the symbol and is representative of an object of interest. This also may be called the **basic symbol**.

4.3.3 Modifiers. Modifiers are graphic modifications to a symbol used to denote specific information such as direction, size, or mobility.

4.3.4 Fields. Fields are a combination of letters, numbers, and/or abbreviations grouped in and around the basic symbol to provide additional information. This information may be another symbol (such as a size indicator), words, or numbers.

4.3.5 Icon identifier. The icon identifier or coding scheme is explained in Section 5, paragraph 5.3.4., and can be found in Appendix B.

4.4 Application/Display Rules.

4.4.1 Framing. With the exception of those noted, all icons in Section 5, Table 11 will be framed using the frame shapes provided in Tables 2 and 3 .

4.4.2 Color. Colors are used to attach specific meaning to tactical information and to enable a user to differentiate friendly, enemy, and neutral forces rapidly. The use of color is an optional, redundant means of classification that enhances user identification. Color is used in conjunction with the established frame shapes. The intent of this standard is to use both color and frame shape to designate affiliation if the using C4I system has a color display capability. When applying color to a symbol, the symbol frame, icon, modifiers, and text normally remain black. Only the interior portion of the frame is color filled. See section 5.4.4 (Table 10) for display options.

4.4.3 Plotting. Symbols are plotted on an overlay or map background based on the geometric center of the symbol or stand alone icon with the center symbol or icon representing the general vicinity of the unit or track.

4.4.4 Symbol Display - Selectable Display Options. Various display options are available depending on the granularity of detail required by the user or by system limitations and capabilities. These may vary from a complex symbol (framed icon with color and text fields) to just a frame or a color coded dot. Priority of display will be affiliation first, followed by battle dimension and other amplifying information as available. Table 10 provides examples of selectable display options.

4.5 Lines, areas, and obstacles. Lines, areas, and obstacles are depicted by a set of graphic representations defining the geometry of the battlefield. These graphics are used to portray unit boundaries, special area designations, obstacles, and other unique markings necessary for battlefield planning and management. Details are provided in section 5.5.

5. DETAILED REQUIREMENTS

5.1 Objective. This section defines the symbol frame shapes and the set of internal icons necessary for C4I functions. It provides the detail necessary to properly use and display C4I symbology at the warrior's terminal. It contains display rules for symbol representation, size, color, placement, and coding.

5.2 Organization. This section is organized into two main parts dealing with the detailed requirements of symbol composition and application and display rules. Section 5.4.4 provides the thematic icons which are embedded into the symbol frames or are used as stand-alone symbols. Section 5.5 covers the symbols and graphics used to depict lines, boundaries, and areas in support of land warfare operations.

5.3 Symbol composition.




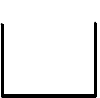


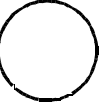






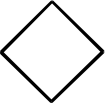
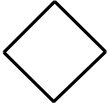

5.3.1 Symbol frames (geometric borders). In most instances, a frame will surround the basic icon, used to facilitate rapid identification. Basic frame shapes (geometric borders) identify the internal symbol or icon as either hostile, friendly, unknown, or neutral. Frames displayed with dashed lines represent a planned or anticipated position. The question mark "?" embedded in the unknown frame further defines the symbol as identification pending. The question mark, displayed in a text field (see 5.3.3.1), is also used to indicate assumed friend, faker, and suspect symbols. The following definitions and descriptions will assist the user in understanding the basic frame shapes. Color coding also may be applied in accordance with the preceding section.

5.3.1.1 Basic affiliation and dimension.

- a. Unknown. An evaluated track which has not been identified.
- b. Friendly. A track positively identified as friendly.
- c. Neutral. A track whose characteristics, behavior, origin or nationality indicate that it is neither supporting nor opposing friendly forces.
- d. Hostile. A track positively identified as enemy, eligible to be engaged.

Table 1 provides the basic symbol frame shapes that define affiliation and battle dimension for warfighting symbology.

TABLE 1. Symbol frames (geometric borders).

	Air/Space	Land	Sea	Subsurface
Unknown				
Friend				
Neutral				
Hostile				

Notes: 1) Frames displayed with solid lines, as shown in the table above, represent the actual current position.
2) Frames displayed with dashed lines represent a planned or anticipated position.

5.3.1.2 Additional affiliations and battle dimensions. A question mark ("?",) in the "E" text field or embedded in the frame is used to further define the meaning of a symbol and to accommodate the uncertainty of track identification (assumed friend, suspect, pending) and special exercise requirements.

a. Assumed friend. A track which is assumed to be a friend because of its characteristics, behavior, or origin. Assumed friend is represented by a friend frame, blue color filled, with a question mark in the "E" text field.

b. Faker. A friendly track acting as a "suspect" track for exercise purposes only. It is represented by a friend frame, red color filled, with a question mark in "E" text field.





















c. Joker. A friendly track acting as a "hostile" track for exercise purposes only. It is represented by a friend frame but displayed with red color fill.

d. Pending. A track for which identification is to be determined. It is represented by a question mark enclosed in the unknown frame.

e. Suspect. A track which is potentially hostile because of its characteristics, behavior, origin or nationality. It is represented by a hostile frame, red color filled, with a question mark in the "E" text field.

Table 2 provides additional definition to the basic frame shapes.

TABLE 2. Additional affiliation and battle dimension.

	Air/Space	Land	Sea	Subsurface
Assumed Friend (Blue)				
Faker (Red)				
Joker (Red)				
Pending (Yellow)				
Suspect (Red)				

5.3.2 **Icon.** The abstract, pictorial, or alpha/numeric symbols or icons represented are the innermost part of the symbol intended to represent an object. Most of these symbols will be enclosed by the frames identified in Tables 1 and 2. The basic icons are listed in Table 11. Only those icons specifically identified as "unframed" or "optional" can be displayed without the basic frame.

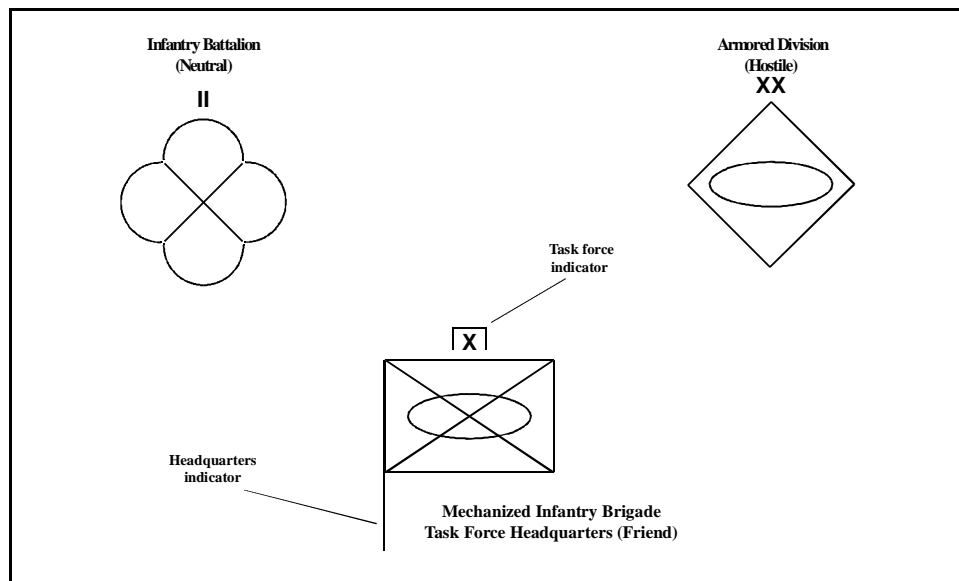
5.3.2.1 **Hierarchy.** To identify and establish the set of common warfighting symbols, it was necessary to define the full range of information required by the operational user at the command level. The taxonomy used in this standard was adopted from the work already done by the developers of STANAG 4420. The information set is organized hierarchically, which facilitates information prioritization and provides a method for summarizing detailed information into a manageable set of symbols. This information is presented in Appendix A.

5.3.3 **Modifiers and text.** Additional modifiers and text such as directional arrows (velocity leaders), alpha/numeric text, and unit icons may be added to define the symbol further. Symbol borders represented by a dashed line represent planned or anticipated locations. The size indicators represented in Table 3 are used in conjunction with the surface (land-based) symbols to identify unit size.

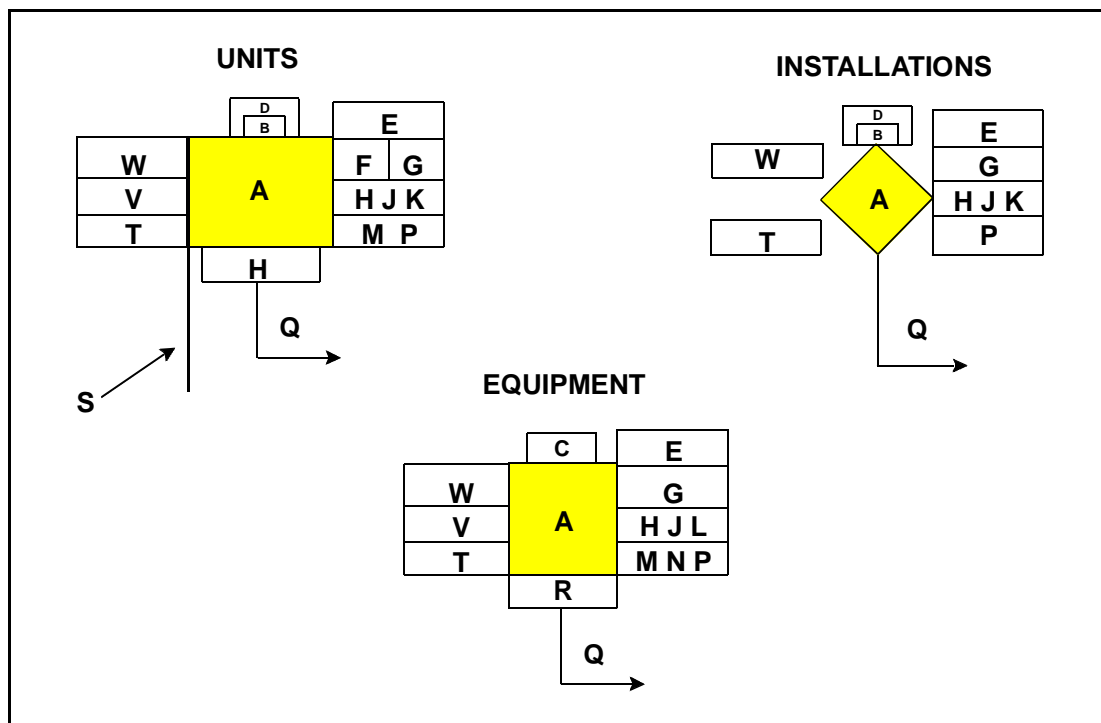
TABLE 3. Unit size indicators (modifiers).

Size Indicator	Generic Term
•	Squad/Crew/Site
••	Section
•••	Platoon/Detachment
I	Company/Battery/Troop
II	Battalion/Squadron
III	Regiment/Group
X	Brigade
X X	Division
X X X	Corps
X X X X	Army
X X X X X	Army Group/Front
X X X X X X	Region

Size indicators are placed at the top center of the symbol frame, as depicted in Figure 3. A bracket included over the size indicator signifies that the element is a "task force." Headquarters units are represented by a staff extending from the side of the frame to the unit's location.

FIGURE 3. Unit size and task force indicator.

5.3.3.1 Fields. Figures 4a through 4c depict the positioning of the possible fields necessary to display additional information concerning the various types of symbols. Not all fields are applicable to all symbols and uses, but in each case the position and maximum length are constant and obligatory. Table 4 provides a legend for field definitions. The default location for air and sea track numbers is field "T", as indicated in Table 4 and Figure 4a through 4c.

FIGURE 4a. Field positions for units, installations, and equipment.

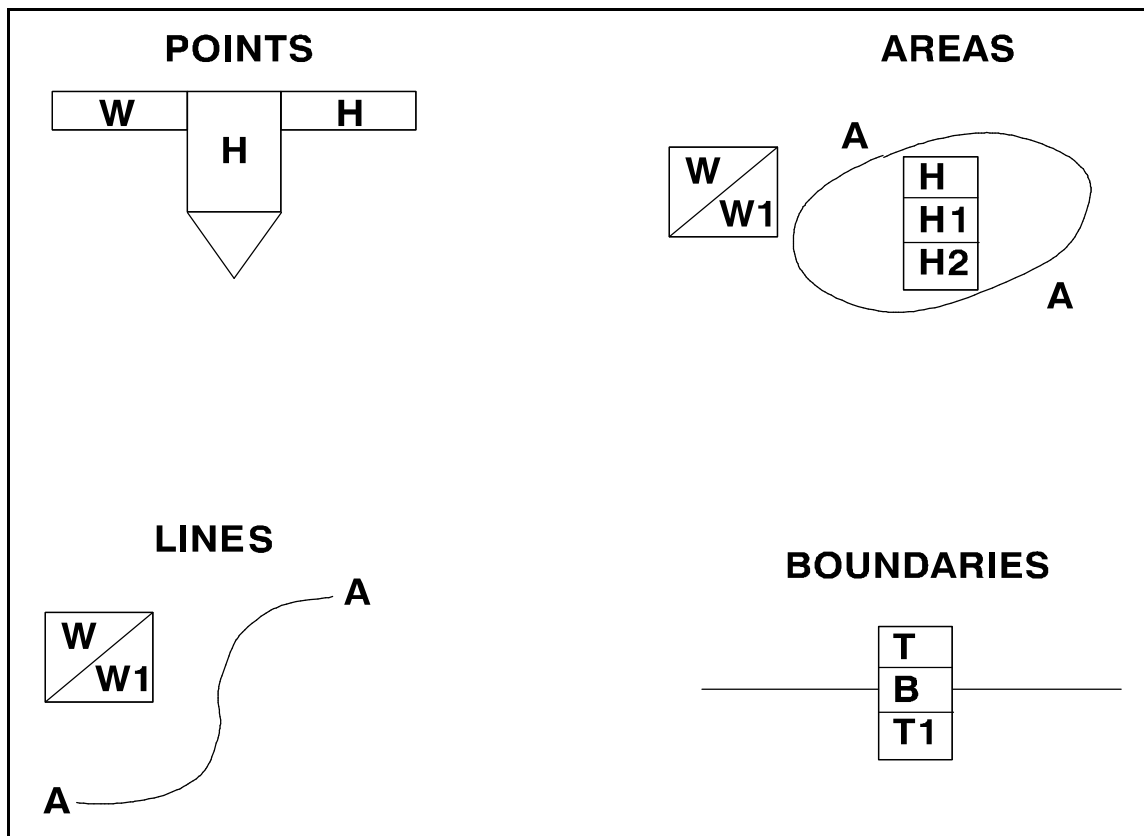


FIGURE 4b. Field positions for points, areas, lines and boundaries.

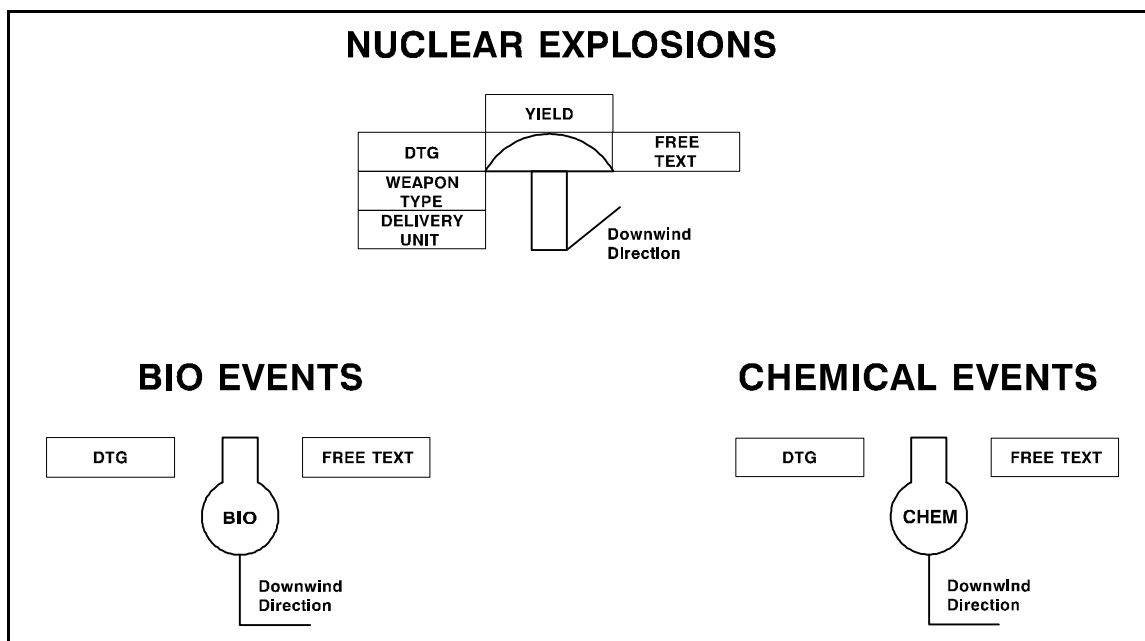


FIGURE 4c. Field positions for NBC events.

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TABLE 4. Field definitions.

Field	Field Title	Description	Application	Field Length (characters)
A	Role Indicator	Basic symbol for units, installations, or equipment	All	*
B	Size Indicator	A symbol that denotes the size of a unit or installation (see Table 3)	Units and Installations	*
C	Quantity of Equipment	Indicates number of items present	Equipment	6
D	Special Size Indicator	A symbol placed over the Size Indicator to denote a Task Force or Company Team (see Figure 3)	Units and installations	*
E	Suspect, Assumed Friend, Faker	Question mark	All	1
F	Reinforced or Detached	Shows (+) reinforced or (-) reduced	Units	3
G	Additional Information	Staff comments	All	20
H	Free Text	Additional information not covered by other fields	All	20
J	Evaluation Rating	One letter and one number (see STANAG 2022)	Enemy Only	2
K	Combat Effectiveness	Effectiveness of unit displayed	Units and Installations	5
L	Signature Equipment	Indicated by "!" (refers to detectable electronic signatures)	Enemy Equipment Only	1
M	Higher Formation	Number or title of higher echelon command	All	15
N	Enemy (Hostile)	Indicated enemy by letters "EN"	Enemy equip, lines, areas, & boundaries	*
P	IFF/SIF	Identification modes and codes	All	5
Q	Direction of Movement Arrow	Direction symbol is moving or will move	All	4
R	Mobility Indicator	Pictorial representation of mobility	Units and Equipment (see Table 3 for mobility indicators)	*
S	Headquarters Representation	Identifies unit symbol as a headquarters	Units	*
T	Unique Designation	An alpha/numeric title that uniquely identifies a particular symbol; track number	All	15
V	Type of Equipment	Identifies class or type rather than unique designation	Equipment	20
W	Date-Time-Group	Alpha/numeric field for date/time (DDHHMMSSZMONYY) (MIL-STD-2500)	All	15

(Note: Asterisk (*) indicates field identification is part of the icon ID.)

5.3.4 Icon identifier. The icon identifier (ICON ID) is a 12-character alpha/numeric code (including 3 characters which are to be defined for future use) that provides the minimum information needed for an automated display system to construct a specific symbol or icon. Since most symbols are constructed of components, standard and user-identified, the ICON ID can be used in conjunction with a database structure to construct the applicable symbols. The first character in the icon identifier code provides the affiliation (hostile, friendly, neutral, etc). The second character identifies the battle dimension as either land, air, space, sea surface, or sea subsurface. The third character identifies the status as either "present" or "anticipated/planned." The affiliation plus dimension plus position codes determine the applicable symbol frame as shown in Section 5.3.1, Tables 1 and 2. The fourth character identifies the basic type as military, civilian, equipment, installation, points, boundaries, etc, and, when combined with the five remaining characters in the code, identify the embedded icons found in Section 5.4.4, Table 11. Table 5 depicts the format of the icon identifier and indicates the possible values for the first four characters of the code. Additional details on symbol coding and defined values for all of the character positions are provided in Appendix B.

TABLE 5. Format of the icon/symbol identifier.

Character Positions											
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u> <u>6</u> <u>7</u> <u>8</u>	<u>9</u>	<u>10</u> <u>11</u> <u>12</u>					
Affiliation	Dimension	Status	Basic Type	Primary/Secondary Roles	Size	TBD					
P-Pending U-Unknown A-Assumed Friend F-Friend N-Neutral S-Suspect H-Hostile O-None Specified (see Table B-2)	A-Air O-Space L-Land S-Surface U-Subsurface X-Other (see Table B-2)	P-Present A-Anticipated H-HQ Present Q-HQ Planned (see Table B-3)	A-Areas B-Bearing T-Boundary C-Civilian E-Equipment I-Installation L-Lines M-Military N-NBC P-Points U-Units (see Table B-4)	(see Tables B-5 through B-23)	(see Table B-21)	(To be defined for future use)					

5.4 Application/Display Rules.

5.4.1 Framing. When complex symbols (frame containing an icon) are displayed, the frames' interior dimensions must accommodate placement of the icons within the frames without degrading symbol recognition. Symbol frames must be large enough to contain a 0.145 inch or 3.683 millimeter icon. In accordance with guidance provided in MIL-STD 1472D, the minimum symbol dimensions for a viewing distance range of 25 to 29 inches are represented in Table 6. Symbol size may need to be adjusted for workstation variables associated with specific system applications (e.g., viewing distance).

TABLE 6. Minimum symbol dimensions.

	Inches	Millimeters
Symbol Frame Height/Width	0.25	6.350
Icon Height/Width	0.145	3.683
Alpha/numeric Height	0.135	3.439

5.4.1.1 Icon placement. With the exception of those noted, all icons in Section 5, Table 11 will be placed within a frame or geometric border provided in Tables 1 and 2. The icon must be placed within the frame so as not to degrade symbol recognition. Minimum symbol and icon dimensions as defined in Table 6 above and paragraph 5.4.1 apply. Table 7 shows examples of proper placement of the icon within the frame. Note that the open frames are extended (three quarters of their full length) to accommodate icon placement within the frame.

TABLE 7. Icon placement.










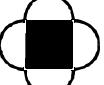
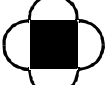


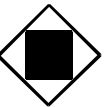
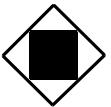



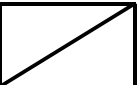
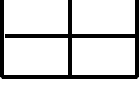





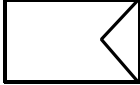
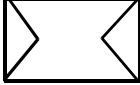
	Air/Space	Land	Sea	Subsurface
Unknown				
Friend				
Neutral				
Hostile				

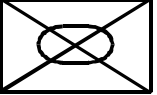
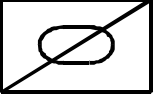
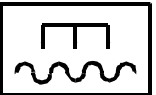
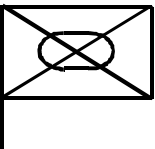
Table 7a illustrates exceptions to the above icon placement rules. In the following situations, the icon will occupy the entire frame or, as in the case if the headquarters staff, may be placed outside of the frame.

TABLE 7a. Exceptions to Icon placement.

				
Air Defense	Anti-tank	Reconnaissance	Medical	Motorized
				Combat svc support
Infantry	Signal/comm	Sound ranging	Supply	
				Corps
				
				Theater

In most cases, a frame will only contain one icon, however, situations may arise where two icons are combined within a frame. These icons may occupy the same space (superimposed on one another) or may be placed above/below each other depending on the type symbol desired. Table 7b shows some examples of symbols where multiple icons are used.

TABLE 7b. Placement of multiple icons.

			
Mechanized infantry	Armored cavalry	Amphibious engineer	Mechanized infantry headquarters

5.4.2 Color. The application of colors to symbology (color representation, luminance, and chromaticity) will be in accordance with the "DOD Human Computer Interface (HCI) Style Guide," Version 2.0, 30 September 1992. The colors and their usage are shown in Table 8.

TABLE 8. Color representation.

Color	Meaning
Green	Neutral forces, obstacles on map graphics
Blue (1)	Friendly forces, assumed friend
Red	Enemy forces, joker, faker, suspect
Yellow	Pending, unknown, outline for missiles in flight and torpedoes
Black (2)	Boundaries, lines, areas, text, icons

Note: 1) Avoid using saturated "blue" for small lines or dots when the background is dark. Blue as a background is most effective for tasks performed at close distances. Because the eye is relatively insensitive to "blue," blue lines or dots may be difficult to resolve.

2) May optionally use other colors which conform to the meanings in Table 9. Off-white (vice black) may be used as the default color depending on the background.

5.4.2.1 Luminance. Color-coded symbols should have a minimum luminance of one footlambert. Contrasts should be high between the text or graphical object and its background screen readability. Minimum luminance contrast ratios are required for specific tasks. For discrimination and legibility, recommended ratios for foreground-to-background luminance contrast range from 6:1 to 10:1. It should be noted that these ratios are not intended to over-ride system specific operational requirements.

5.4.2.2 Chromaticity. To aid in color discrimination, use colors that are as widely spaced along the visible color spectrum as possible. The following colors, listed by their wavelengths in millimicron, are spaced widely enough for easy discrimination.

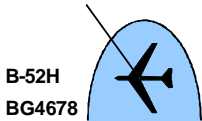
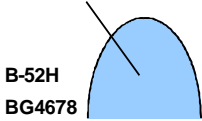
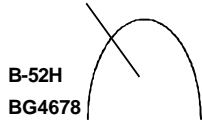
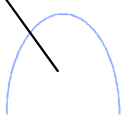



TABLE 9. Chromaticity values.

Color (Generic)	Wavelength (Millimicrons)
Red	700
Orange	600
Yellow	570
Yellow-green	535
Green	500
Blue-green	493
Blue	470

5.4.3 Plotting. The plotting of a symbol or a stand alone icon is based on the symbol or icon's geometric center. The geometric center symbol or a stand alone icon indicates the general vicinity of the center of mass of a unit or piece of equipment. If a staff is added to identify a headquarters or for the purpose of eliminating clutter, the base of the staff indicates the precise location. If a group of units or installations is at one location, the grouping of symbols may be enclosed with a bracket and the exact location indicated with a staff.




5.4.4 Symbol display options. The intent of the standard is to provide for the display of all available information regarding a specified symbol. However, system limitation, operational requirements, or the need for clutter reduction may require the display of a reduced amount of information. Table 10 provides an example display option hierarchy for use when the situation dictates. Priority of display will be affiliation first, followed by battle dimension and other amplifying information. When using the following display options, the application/display rules from this section apply. Dot size dimensions should be consistent with the icon dimensions defined in Table 6.

TABLE 10. Partial list of selectable display options.



Example	Remarks
	Black frame Color fill Black icon Text field Modifier
	Black frame Color fill Text field Modifier
	Black frame Text field Modifier
	Color frame Modifier
	Black frame
	Color coded dot Modifier
	Black dot

5.4.5 Symbol Display - Common warfighting symbology icon set. The icons contained in this section are based primarily on STANAG 2019 and FM 101-5-1, STANAG 4420, and input received from the C/S/As and their representatives at the Symbology Ad Hoc Working Group and Symbology Standards Management Committee (SSMC) meetings. These documents represent significant research and many years of use within the operational C4I community. They represent the symbol requirements for the C4IFTW within DOD. The icon set that follows is ordered according to a tactical information hierarchy, and provides the symbol or icon, the symbol description, the source, and the symbol code or icon designator.



TABLE 11. Basic icons.

SOURCE	ICON ID	HIERARCHY	DESCRIPTION	F R A M I N G	ICON
		1.1.1	SEA SURFACE TRACK		
STANAG 4420	*S*MCB _ _ _ _	1.1.1.1	COMBATANT	F	
STANAG 4420	*S*MLI _ _ _ _	1.1.1.1.1	LINE	F	
STANAG 4420	*S*MCA _ _ _ _	1.1.1.1.1.1	CARRIER	F	
STANAG 4420	*S*MBB _ _ _ _	1.1.1.1.1.2	BATTLESHIP	F	BB
STANAG 4420	*S*MCC _ _ _ _	1.1.1.1.1.3	CRUISER	F	CC
STANAG 4420	*S*MDD _ _ _ _	1.1.1.1.1.4	DESTROYER	F	DD






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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*S*MFF_ _ _ _	1.1.1.1.1.5	FRIGATE/ CORVETTE	F	FF
STANAG 4420	*S*MAW_ _ _ _	1.1.1.1.2	AMPHIBIOUS WARFARE	F	
STANAG 4420	*S*MLA_ _ _ _	1.1.1.1.2.1	ASSAULT VESSEL	F	LA
STANAG 4420	*S*MLS_ _ _ _	1.1.1.1.2.2	LANDING SHIP	F	LS
STANAG 4420	*S*MLC_ _ _ _	1.1.1.1.2.3	LANDING CRAFT	F	LC
STANAG 4420	*S*MMW_ _ _ _	1.1.1.1.3	MINE WARFARE	F	
STANAG 4420	*S*MML_ _ _ _	1.1.1.1.3.1	MINELAYER	F	ML
STANAG 4420	*S*MMS_ _ _ _	1.1.1.1.3.2	MINESWEEPER	F	MS
STANAG 4420	*S*MMH_ _ _ _	1.1.1.1.3.3	MINEHUNTER	F	MH










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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*S*MMA_ _ _ _	1.1.1.1.3.4	MCM SUPPORT	F	MA
STANAG 4420	*S*MMD_ _ _ _	1.1.1.1.3.5	MCM DRONE	F	MD
STANAG 4420	*S*MPT_ _ _ _	1.1.1.1.4	PATROL	F	↓
STANAG 4420	*S*MPC_ _ _ _	1.1.1.1.4.1	ASW	F	PC
STANAG 4420	*S*MPU_ _ _ _	1.1.1.1.4.2	ASUW	F	↓
		1.1.1.1.5	MULTI-PURPOSE		
STANAG 2019	*S*MHC_ _ _ _	1.1.1.1.5.1	HOVERCRAFT	F	
STANAG 4420	*S*MNC_ _ _ _	1.1.1.2	NON-COMBATANT	F	
STANAG 4420	*S*MAR_ _ _ _	1.1.1.2.1 1.1.1.2.1.1 1.1.1.2.1.2 1.1.1.2.1.3 1.1.1.2.1.4	UNDERWAY REPLENISHMENT -OILER/TANKER -STORES -AMMUNITION -TROOP TRANSPORT	F	AR
STANAG 4420	*S*MAS_ _ _ _	1.1.1.2.2 1.1.1.2.2.1 1.1.1.2.2.2	FLEET SUPPORT -TENDER -TUG	F	AS








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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*S*MJI_ _ _ _	1.1.1.2.3 1.1.1.2.3.1 1.1.1.2.3.2	INTELLIGENCE -OCEANOGRAPH -AGI	F	JI
STANAG 4420	*S*MY_ _ _ _	1.1.1.2.4 1.1.1.2.4.1 1.1.1.2.4.2 1.1.1.2.4.3	SERVICE & SUPPORT HARBOR -YARDCRAFT -BARGE -TUG	F	YY
STANAG 4420	*S*MAH_ _ _ _	1.1.1.2.5	HOSPITAL SHIP	F	AH
		1.1.1.2.6	MULTI-PURPOSE		
STANAG 2019	*S*MHC_ _ _ _	1.1.1.2.6.1	HOVERCRAFT	F	
		1.1.1.3	NON-NAVAL		
STANAG 4420	*S*CME_ _ _ _	1.1.1.3.1	MERCHANT	FO	
SWG	*S*CMECO _ _	1.1.1.3.1.1	CARGO	FO	
SWG	*S*CMERO _ _	1.1.1.3.1.2	RORO	FO	
SWG	*S*CMEOT _ _	1.1.1.3.1.3	OILER/TANKER	FO	








MIL-STD-2525

SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
SWG	*S*CMETU_ _	1.1.1.3.1.4	TUG	FO	
SWG	*S*CMEFE_ _	1.1.1.3.1.5	FERRY	FO	
SWG	*S*CMEPA_ _	1.1.1.3.1.6	PASSENGER	FO	
SWG	*S*CMEHM_ _	1.1.1.3.1.7	HAZMAT	FO	
SWG	*S*CMETV_ _	1.1.1.3.1.8	TOWING VESSEL	FO	
STANAG 4420	*S*CFI_ _ _ _	1.1.1.3.2	FISHING	FO	
SWG	*S*CFIDF_ _	1.1.1.3.2.1	DRIFTER	FO	
SWG	*S*CFIDR_ _	1.1.1.3.2.2	DREDGE	FO	
STANAG 4420	*S*CFITR_ _	1.1.1.3.2.3	TRAWLER	FO	








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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*S*CLE_ _ _ _	1.1.1.3.3	LEISURE	FO	
SWG	*S*CMEPT_ _	1.1.1.3.4	LAW ENFORCEMENT	FO	
		1.1.1.3.5	MULTI-PURPOSE		
STANAG 2019	*S*CHC_ _ _ _	1.1.1.3.5.1	HOVERCRAFT	FO	
STANAG 4420		1.1.2	SUBSURFACE TRACK		
STANAG 4420	*U*MSU_ _ _ _	1.1.2.1	SUBMARINE	F	
STANAG 4420	*U*MNP_ _ _ _	1.1.2.1.1 1.1.2.1.1.1 1.1.2.1.1.2 1.1.2.1.1.3	NUCL. PROPULSION -STRATEGIC -ATTACK -GUIDED MISSILE	F	
STANAG 4420	*U*MCP_ _ _ _	1.1.2.1.2 1.1.2.1.2.1 1.1.2.1.2.2 1.1.2.1.2.3	CONV. PROPULSION -STRATEGIC -ATTACK -GUIDED MISSILE	F	
STANAG 4420	*U*MOS_ _ _ _	1.1.2.1.3 1.1.2.1.3.1 1.1.2.1.3.2 1.1.2.1.3.3	OTHER SUBMERSIBLE -RESCUE -RESEARCH -UWTG	F	








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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
		1.1.2.2	UNDERWATER WEAPON		
		1.1.2.2.1	HARD KILL		
STANAG 4420	*U*MTO_ _ _ _	1.1.2.2.1.1	TORPEDO (NOTE: Border of this icon is yellow)	UF	
STANAG 4420	*U*MMISM_ _	1.1.2.2.1.2	SEA MINE -CLASSIFIED BY POSITION -NO INFO -MINE STATUS -NOT DEALT	UF	
STANAG 4420	*U*MMISG_ _	1.1.2.2.1.2.1	SEA MINE (GROUND)	UF	
STANAG 4420	*U*MMIMO_ _	1.1.2.2.1.2.2	SEA MINE (MOORED)	UF	
STANAG 4420	*U*MMIFL_ _	1.1.2.2.1.2.3	SEA MINE (FLOATING)	UF	
STANAG 4420	*U*MMIOT_ _	1.1.2.2.1.2.4	SEA MINE (OTHER)	UF	
STANAG 4420	*U*MMIDL_ _	1.1.2.2.1.2.5	DEALT (NEUTRALIZED)	UF	


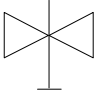
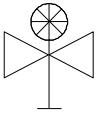


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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*U*MDEUD_ _	1.1.2.2.2	UNDERWATER DECOY -UNDERWATER OTHER	UF	
STANAG 4420	*U*MDEMI_ _	1.1.2.2.2.1	SEA MINE DECOY	UF	
		1.1.2.3	NON-SUBMARINE		
STANAG 4420	*U*MDI_ _ _ _	1.1.2.3.1 1.1.2.3.1.1 1.1.2.3.1.2	DIVER -HARDTOP -SCUBA	UF	
STANAG 4420	*U*CBR_ _ _ _	1.1.2.3.2 1.1.2.3.2.1	BOTTOM RETURN/NOMBO -SEABED INSTALLATION/ MANMADE	UF	
STANAG 4420	*U*CST_ _ _ _	1.1.2.3.2.2 1.1.2.3.2.3 1.1.2.3.2.4	SEABED ROCK/STONE -SEABED OBSTACLE -SEABED OTHER	UF	
STANAG 4420	*U*CWR_ _ _ _	1.1.2.3.2.5	WRECK	UF	
STANAG 4420	*U*CMA_ _ _ _	1.1.2.3.3	MARINE LIFE	UF	







MIL-STD-2525

SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*U*CSA_ _ _ _	1.1.2.3.4 1.1.2.3.4.1 1.1.2.3.4.2 1.1.2.3.4.3	SEA ANOMALY -WAKE -KNUCKLE -CURRENT	UF	
		1.1.3	AIR TRACKS		
		1.1.3.1	MILITARY		
SWG	*A*MFW _ _ _ _	1.1.3.1.1	FIXED WING	F	
SWG	*A*MFWBO_ _	1.1.3.1.1.1	BOMBER -LONG RANGE	F	
SWG	*A*MFWFI_ _	1.1.3.1.1.2	FIGHTER - INTERCEPTOR - ATTACK/STRIKE - GROUND SUPPORT	F	
SWG	*A*MFWTR_ _	1.1.3.1.1.3	SUPPORT AIRCRAFT - TANKER - TRANSPORT - ECM/JAMMER	F	
SWG	*A*MFWRA_ _	1.1.3.1.1.4	RECON AIRCRAFT - MPA/ASW - RECCON - ESM - RPV/UNMANNED	F	
SWG	*A*MFWC2_ _	1.1.3.1.1.5	C3I - Command/control - AEW	F	


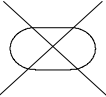
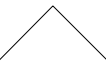






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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
		1.1.3.1.2	HELICOPTER		
SWG	*A*MHEHA _ _	1.1.3.1.2.1 1.1.3.1.2.1.1 1.1.3.1.2.1.2	ATTACK - ASW - ASUW	F	
SWG	*A*MHEHS _ _	1.1.3.1.2.2 1.1.3.1.2.2.1 1.1.3.1.2.2.2 1.1.3.1.2.2.3 1.1.3.1.2.2.4	SUPPORT - MCM - SAR - RECON - C2	F	
SWG	*A*MHEHT _ _	1.1.3.1.2.3	TRANSPORT	F	
STANAG 4420	*A*MLA _ _ _ _	1.1.3.1.3 1.1.3.1.3.1 1.1.3.1.3.2 1.1.3.1.3.3	LIGHTER THAN AIR -RIGID -NON-RIGID -RPV/UNMANNED	F	
		1.1.3.2	WEAPON		
STANAG 4420	*A*MMF _ _ _ _	1.1.3.2.1 1.1.3.2.1.1 1.1.3.2.1.2 1.1.3.2.1.3 1.1.3.2.1.4 1.1.3.2.1.5 1.1.3.2.1.6 1.1.3.2.1.7 1.1.3.2.1.8	MISSILE IN FLIGHT -ASM -SSM -AAM -SAM -MCT -MCD -S/SSM -LAND ATTACK NOTE: Border of this icon is yellow	UF	


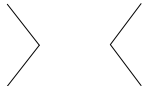



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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*A*MDE _ _ _ _	1.1.3.2.2 1.1.3.2.2.1 1.1.3.2.2.2 1.1.3.2.2.3	DECOY -DISTRACTION -CONFUSION -SEDUCTION	UF	
		1.1.3.3	CIVILIAN	UF	
STANAG 4420	*A*CFW _ _ _ _	1.1.3.3.1	FIXED WING	UF	
STANAG 4420	*A*CHE _ _ _ _	1.1.3.3.2	HELICOPTER	UF	
STANAG 4420	*A*CLA _ _ _ _	1.1.3.3.3	LIGHTER THAN AIR	UF	
SWG		1.1.4	LAND TRACK		
SWG		1.1.4.1	TROOPS		
SWG		1.1.4.1.1	UNIT		
STANAG 2019 (APP-6)	*L*U97 _ _ _ _	1.1.4.1.1.1	AIR DEFENSE	F	
STANAG 2019 (APP-6)	*L*U42 _ _ _ _	1.1.4.1.1.2	INFANTRY	F	









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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
FM 101-5-1		1.1.4.1.1.3	MOTORIZED UNIT	F	
STANAG 2019 (APP-6)	*L*U44 _ _ _ _	1.1.4.1.1.4	MECHANIZED INFANTRY	F	
STANAG 2019 (APP-6)	*L*U81 _ _ _ _	1.1.4.1.1.5	ANTI-TANK	F	
STANAG 2019 (APP-6)	*L*U39 _ _ _ _	1.1.4.1.1.6	ARTILLERY	F	
STANAG 2019 (APP-6)	*L*U18 _ _ _ _	1.1.4.1.1.7	AMPHIBIOUS	F	
STANAG 2019 (APP-6)	*L*U82 _ _ _ _	1.1.4.1.1.8	AIR MOBILE	F	
STANAG 2019 (APP-6)	*L*U13 _ _ _ _	1.1.4.1.1.9	AIR TRANSPORTABLE	F	
STANAG 2019 (APP-6)	*L*U22 _ _ _ _	1.1.4.1.1.10	ARMOR	F	
STANAG 2019 (APP-6)	*L*U27 _ _ _ _	1.1.4.1.1.11	BRIDGING	F	


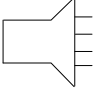



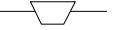


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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
		1.1.4.1.1.12	COMBAT SERVICE SUPPORT		
STANAG 2019 (APP-6)	*L*U5_ _ _ _ _	1.1.4.1.1.12.1	COMBAT SERVICE SUPPORT - (CORPS AND BELOW)	F	
FM 101-5-1	*L*U6_ _ _ _ _	1.1.4.1.1.12.2	COMBAT SERVICE SUPPORT - (THEATER)	F	
STANAG 2019 (APP-6)	*L*U83_ _ _ _ _	1.1.4.1.1.13	ELECTRONIC RANGING	F	
STANAG 2019 (APP-6)	*L*U38_ _ _ _ _	1.1.4.1.1.14	ELECTRONIC WARFARE	F	EW
STANAG 2019 (APP-6)	*L*U37_ _ _ _ _	1.1.4.1.1.15	ENGINEER	F	
STANAG 2019 (APP-6)	*L*U50_ _ _ _ _	1.1.4.1.1.16	MEDICAL	F	
STANAG 2019 (APP-6)	*L*U51_ _ _ _ _	1.1.4.1.1.17	METEOROLOGICAL and OCEANOGRAPHIC	F	MET
STANAG 2019 (APP-6)	*L***54_ _ _ _	1.1.4.1.1.18	MILITARY POLICE	F	MP


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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 2019 (APP-6)	*L*U84_ _ _ _	1.1.4.1.1.19	MILITARY/CIVIL AFFAIRS	F	
STANAG 2019 (APP-6)	*L*U75_ _ _ _	1.1.4.1.1.20	MISSILE UNIT	F	
STANAG 2019 (APP-6)	*L*U56_ _ _ _	1.1.4.1.1.21	MOUNTAIN	F	
STANAG 2019 (APP-6)	*L*U29_ _ _ _	1.1.4.1.1.22	NBC	F	
STANAG 2019 (APP-6)	*L*U57_ _ _ _	1.1.4.1.1.23	ORDNANCE	F	
STANAG 2019 (APP-6)	*L*U85_ _ _ _	1.1.4.1.1.24	PARACHUTE	F	
STANAG 2019 (APP-6)	*L*U41_ _ _ _	1.1.4.1.1.25	PAY/FINANCE	F	
STANAG 2019 (APP-6)	*L*U86_ _ _ _	1.1.4.1.1.26	PERSONNEL SERVICES	F	PS
STANAG 2019 (APP-6)	*L*U87_ _ _ _	1.1.4.1.1.27	PIPELINE	F	






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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 2019 (APP-6)	*L*U88 _ _ _ _	1.1.4.1.1.28	POSTAL and/or COURIER	F	
STANAG 2019 (APP-6)	*L*U59 _ _ _ _	1.1.4.1.1.29	PSYCHOLOGICAL	F	
STANAG 2019 (APP-6)	*L*U61 _ _ _ _	1.1.4.1.1.30	QUARTERMASTER	F	
STANAG 2019 (APP-6)	*L*U28 _ _ _ _	1.1.4.1.1.31	RECON	F	
STANAG 2019 (APP-6)	*L*U89 _ _ _ _	1.1.4.1.1.32	REINFORCEMENT/ REPLACEMENT	F	RHU
STANAG 2019 (APP-6)	*L*U66 _ _ _ _	1.1.4.1.1.33	SIGNAL/ COMMUNICATION	F	
STANAG 2019 (APP-6)	*L*U67 _ _ _ _	1.1.4.1.1.34	SOUND RANGING	F	
STANAG 2019 (APP-6)	*L*U69 _ _ _ _	1.1.4.1.1.35	SUPPLY	F	
STANAG 2019 (APP-6)	*L*U77 _ _ _ _	1.1.4.1.1.36	TOPOGRAPHIC	F	








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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 2019 (APP-6)	*L*U78 _ _ _ _	1.1.4.1.1.37	TRANSPORTATION/ MOVEMENT	F	
STANAG 2019 (APP-6)	*L*U98 _ _ _ _	1.1.4.1.1.38	VETERINARY	F	VET
		1.1.4.1.1.39	SPECIAL OPERATIONS		
SWG	*L*U91 _ _ _ _	1.1.4.1.1.39.1	SPECIAL OPERATIONS -COMMAND -SPECIAL MISSION UNIT	F	SO
SWG	*L*U92 _ _ _ _	1.1.4.1.1.39.2	AIR FORCE SPECIAL OPERATIONS - COMPONENT -BASE -DETACHMENT -ELEMENT -FORCE	F	SO AF
SWG	*L*U93 _ _ _ _	1.1.4.1.1.39.3	ARMY SPECIAL OPERATIONS -COMPONENT -FORCE -SPECIAL FORCES GROUP - SPECIAL FORCES OPERATING BASE	F	SO USA
SWG	*L*U94 _ _ _ _	1.1.4.1.1.39.4	NAVAL SPECIAL WARFARE -COMPONENT -FORCES -GROUP -TASK GROUP -TASK UNIT -UNIT -SPECIAL BOAT UNIT	F	so ⚓








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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 2019 (APP-6)	*L*U99 _ _ _ _	1.1.4.1.1.40	LABOR RESOURCES	F	
STANAG 2019 (APP-6)	*L*U49 _ _ _ _	1.1.4.1.1.41	MAINTENANCE	F	
STANAG 2019 (APP-6)	*L*U2 _ _ _ _	1.1.4.1.2	HEADQUARTERS	UF	
STANAG 2019 (APP-6)	*L*U95 _ _ _ _	1.1.4.1.2.1	MARINES	F	SSS
STANAG 2019 (APP-6)	*L*U96 _ _ _ _	1.1.4.1.2.2	NAVY	F	
SWG	*L*UAF _ _ _ _	1.1.4.1.2.3	AIR FORCE	F	AF
SWG	*L*UCG _ _ _ _	1.1.4.1.2.4	COAST GUARD	F	
SWG	*L*UUS _ _ _ _	1.1.4.1.2.5	ARMY	F	USA
		1.1.4.2	INSTALLATION		




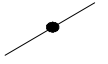
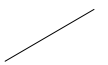

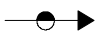
MIL-STD-2525

SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
		1.1.4.2.1	LOGISTIC		
STANAG 2019 (APP-6)	*L**I69_ _ _	1.1.4.2.1.1	SUPPLY	F	
STANAG 2019 (APP-6)	*L*I58_ _ _	1.1.4.2.1.2	FUEL	F	
STANAG 2019 (APP-6)	*L*IDK_ _ _	1.1.4.2.1.3	AMMUNITION	F	
STANAG 2019 (APP-6)	*L*I49_ _ _	1.1.4.2.1.4	MAINTENANCE	F	
STANAG 2019 (APP-6)	*L*IA8_ _ _	1.1.4.2.1.5	SPARE PARTS	F	
STANAG 2019 (APP-6)	*L*I27_ _ _	1.1.4.2.1.6	BRIDGING	F	
STANAG 2019 (APP-6)	*L*IDN_ _ _	1.1.4.2.1.7	CHEMICAL STORAGE	F	CHEM
STANAG 2019 (APP-6)	*L*IA3_ _ _ _	1.1.4.2.1.9.	DECONTAMINATION	F	




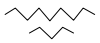




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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 2019 (APP-6)	*L*I37_ _ _ _	1.1.4.2.1.10	ENGINEER	F	
STANAG 2019 (APP-6)	*L*I78_ _ _ _	1.1.4.2.1.11	MOVEMENT CONTROL	F	
STANAG 2019 (APP-6)	*L*IDO_ _ _ _	1.1.4.2.1.12	NUCLEAR STORAGE	F	NUC
STANAG 2019 (APP-6)	*L*IE7_ _ _ _	1.1.4.2.1.13	WATER	F	
		1.1.4.2.2	ADMINISTRATION		
STANAG 2019 (APP-6)	*L*IE1_ _ _ _	1.1.4.2.2.1	BURIAL	F	
STANAG 2019 (APP-6)	*L*IEB_ _ _ _	1.1.4.2.2.2	FOOD	F	
STANAG 2019 (APP-6)	*L*IE2_ _ _ _	1.1.4.2.2.3	HOSPITAL	F	
STANAG 2019 (APP-6)	*L*I50_ _ _ _	1.1.4.2.2.4	MEDICAL	F	









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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 2019 (APP-6)	*L*IEC_ _ _ _	1.1.4.2.2.5	LAUNDRY AND BATH	F	
		1.1.4.2.3	ELECTRONIC		
STANAG 2019 (APP-6)	*L*IB9_ _ _ _	1.1.4.2.3. 1	RADAR	F	
STANAG 2019 (APP-6)	*L*IB1_ _ _ _	1.1.4.2.3.1.1	AIR DEFENCE RADAR	F	
STANAG 2019 (APP-6)	*L*IB2_ _ _ _	1.1.4.2.3.1.2	ARTILLERY LOCATING	F	
STANAG 2019 (APP-6)	*L*IB6_ _ _ _	1.1.4.2.3.1.3	GROUND SENSOR/SURV. RADAR	F	
STANAG 2019 (APP-6)	*L*IB5_ _ _ _	1.1.4.2.3.2	ELECTRONIC WARFARE	F	EW
STANAG 2019 (APP-6)	*L*IC3_ _ _ _	1.1.4.2.3.3.	SIGNAL COMMUNICATIONS	F	
STANAG 2019 (APP-6)	*L*IC4_ _ _ _	1.1.4.2.3.4.	TARGET DESIGNATOR	F	





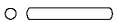




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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	F R A M I N G	ICON
STANAG 2019 (APP-6)	*L*IB4_ _ _ _	1.1.4.2.3.5	DIRECTION FINDING	F	
STANAG 2019 (APP-6)	*L*IBA_ _ _ _	1.1.4.2.3.6	EMITTING	F	
STANAG 2019 (APP-6)	*L*IB7_ _ _ _	1.1.4.2.3.7.	INTERCEPTING	F	
STANAG 2019 (APP-6)	*L*IB8_ _ _ _	1.1.4.2.3.8.	JAMMING	F	
		1.1.4.3	EQUIPMENT		
		1.1.4.3.1	WEAPON		
STANAG 2019 (APP-6)	***EAT_ _ _ _	1.1.4.3.1.1.	ANTI-TANK GUN	FO	
STANAG 2019 (APP-6)	***EFL_ _ _ _	1.1.4.3.1.2.	FLAME THROWER	FO	
STANAG 2019 (APP-6)	***EHO_ _ _ _	1.1.4.3.1.3.	GUN OR HOWITZER	FO	
STANAG 2019 (APP-6)	***EMG_ _ _ _	1.1.4.3.1.4.	MACHINE GUN	FO	

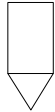






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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 2019 (APP-6)	***EAR_ _ _ _	1.1.4.3.1.5.	ANTI-TANK ROCKET LAUNCHER	FO	
STANAG 2019 (APP-6)	***EAM_ _ _ _	1.1.4.3.1.6	ANTI-TANK MISSILE LAUNCHER	FO	
STANAG 2019 (APP-6)	***EMO_ _ _ _	1.1.4.3.1.7	MORTAR	FO	
STANAG 2019 (APP-6)	***ESA_ _ _ _	1.1.4.3.1.8	SAM LAUNCHER	FO	
STANAG 2019 (APP-6)	***ESS_ _ _ _	1.1.4.3.1.9	SSM LAUNCHER	FO	
		1.1.4.3.2	VEHICLE		
STANAG 2019 (APP-6)	***EA0_ _ _ _	1.1.4.3.2.1	AMPHIBIOUS MOBILITY INDICATOR	FO	
STANAG 2019 (APP-6)	***ES0_ _ _ _	1.1.4.3.2.2	OVERSNOW MOBILITY INDICATOR	FO	
STANAG 2019 (APP-6)	***ER0_ _ _ _	1.1.4.3.2.3	RAILWAY MOBILITY INDICATOR	FO	









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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 2019 (APP-6)	***ET0_ _ _ _	1.1.4.3.2.4	TOWED VEH. MOBILITY INDICATOR	FO	
STANAG 2019 (APP-6)	***EP0_ _ _ _	1.1.4.3.2.5	TRACKED MOBILITY INDICATOR	FO	
STANAG 2019 (APP-6)	***EW0_ _ _ _	1.1.4.3.2.6	WHEELED MOBILITY INDICATOR	FO	
STANAG 2019 (APP-6)	***EC0_ _ _ _	1.1.4.3.2.7	WHEELED X-COUNTRY MOBILITY INDICATOR	FO	
STANAG 2019 (APP-6)	***EM0_ _ _ _	1.1.4.3.2.8	WHEELED/ TRACKED COMBINATION	FO	
STANAG 2019 (APP-6)	***ETL_ _ _ _	1.1.4.3.2.9	TANK	FO	
STANAG 2019 (APP-6)	***EBI_ _ _ _	1.1.4.3.2.10	MICV/IFV	FO	
STANAG 2019 (APP-6)	***EAP_ _ _ _	1.1.4.3.2.11	APC	FO	
STANAG 2019 (APP-6)	***EUV_ _ _ _	1.1.4.3.2.13	UNPROTECTED VEHICLE	FO	










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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
		1.1.4.4	POINT		
STANAG 2019 (APP-6)	*X*PCPGE_ _	1.1.4.4.1	GENERAL POINT	UF	
STANAG 2019 (APP-6)	*X*PCPST_ _	1.1.4.4.1.1	STARTING POINT	UF	
STANAG 2019 (APP-6)	*X*PCPRE_ _	1.1.4.4.1.2	RELEASE POINT	UF	
		1.1.4.4.2	DEMOLITION POINT		
STANAG 2019 (APP-6)	*X*PMKDM_ _	1.1.4.4.2.1	PLANNED POINT DEMOLITION	UF	
STANAG 2019 (APP-6)	*X*PMKD1_ _	1.1.4.4.2.2	PREPARED DEMOLITION STATE 1	UF	
STANAG 2019 (APP-6)	*X*PMKD2_ _	1.1.4.4.2.3	PREPARED DEMOLITION STATE 2	UF	
STANAG 2019 (APP-6)	*X*PMKDX_ _	1.1.4.4.2.4	EXECUTED DEMOLITION	UF	
		1.1.4.4.3	NBC POINT		




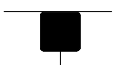


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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 2019 (APP-6)	*X*NAN _ _ _ _	1.1.4.4.3.1	NUCLEAR (PLANNED STRIKE)	UF	
STANAG 2019 (APP-6)	*X*NPN _ _ _ _	1.1.4.4.3.2	NUCLEAR (ACTUAL STRIKE)	UF	
STANAG 2019 (APP-6)	*X*NBE _ _ _ _	1.1.4.4.3.3	BIOLOGICAL EVENT	UF	
STANAG 2019 (APP-6)	*X*NCE _ _ _ _	1.1.4.4.3.4	CHEMICAL EVENT	UF	
STANAG 2019 (APP-6)	*X*NU _ _ _ _	1.1.4.4.4.5	UNKNOWN NBC EVENT	UF	
		1.1.4.4.5	OBSTACLE		
STANAG 2019 (APP-6)	*X*AAB _ _ _ _	1.1.4.4.5.1	ABATIS	UF	
STANAG 2019 (APP-6)	*X*ABT _ _ _ _	1.1.4.4.5.2	BOOBY TRAP	UF	
STANAG 2019 (APP-6)	*X*AAT _ _ _ _	1.1.4.4.5.3	NON-EXPLOSIVE ANTI-TANK	UF	








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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 2019 (APP-6)	*X*AAH _ _ _ _	1.1.4.4.5.4	A-T MINE W ANTI-HANDLING	UF	
STANAG 2019 (APP-6)	*X*AAP _ _ _ _	1.1.4.4.5.5	ANTI-PERSONNEL MINE, LAND	UF	
STANAG 2019 (APP-6)	*X*AAM _ _ _ _	1.1.4.4.5.6	ANTI-TANK MINE	UF	
STANAG 2019 (APP-6)	*X*ADM _ _ _ _	1.1.4.4.5.7	DIRECTIONAL MINE, LAND	UF	
STANAG 2019 (APP-6)	*X*AMC _ _ _ _	1.1.4.4.5.8	LAND MINE CLUSTER	UF	
STANAG 2019 (APP-6)	*X*AMU _ _ _ _	1.1.4.4.5.9	LAND MINE, TYPE UNSPECIFIED	UF	
STANAG 2019 (APP-6)	*X*PPO _ _ _ _	1.1.4.4.5.10	POINT OBSTACLE	UF	
STANAG 2019 (APP-6)	*X*ASM _ _ _ _	1.1.4.4.5.11	SCATTERABLE MINES	UF	
STANAG 2019 (APP-6)	*X*PCPTW _ _	1.1.4.4.5.12	TRIP WIRE	UF	







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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
		1.1.4.5	SITES		
SWG	*X*PMKOP __	1.1.4.5.1	OBSERVATION POST	FO	OP
STANAG 2019 (APP-6)	*X*PMKLS __	1.1.4.5.2	LANDING SITE	UF	
		1.1.4.5.3	SHELTER		
STANAG 2019 (APP-6)	*X*PMKEA __	1.1.4.5.3.1	EARTHWORK	UF	
STANAG 2019 (APP-6)	*X*PMKSS __	1.1.4.5.3.2	SURFACE SHELTER	UF	
STANAG 2019 (APP-6)	*X*PMKUS __	1.1.4.5.3.3	UNDERGROUND SHELTER	UF	
SWG		1.1.5	SPACE TRACKS		
SWG	*O*C _ _ _ _ _	1.1.5.1	SATELLITE (CIVILIAN)	F	
SWG	*O*M _ _ _ _ _	1.1.5.2	SATELLITE (MILITARY)	F	
		1.1.6	SPECIAL POINT		








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


SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
		1.1.6.1	FIX		
STANAG 4420	*X*PFXEM_ _	1.1.6.1.1	ELECTRO-MAGNETIC	UF	
STANAG 4420	*X*PFXFI_ _	1.1.6.1.2	ACOUSTIC	UF	
STANAG 4420	*X*PFXEO_ _	1.1.6.1.3	ELECTRO-OPTICAL	UF	
STANAG 4420		1.1.6.2	REFERENCE POINT		
STANAG 4420	*X*P*SP_ _ _	1.1.6.2.1	NAV REFERENCE	UF	
STANAG 4420	*X*PFXDL_ _	1.1.6.2.2	DLRP	UF	
		1.1.6.3	EMERGENCY		
STANAG 4420	*X*PMKDI_ _	1.1.6.3.1	DITCHED A/C	UF	
STANAG 4420	*X*PMKMW_ _	1.1.6.3.2	PERSON IN WATER	UF	

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
SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*X*PMKDV_ _	1.1.6.3.3	DISTRESSED VESSEL	UF	
		1.1.6.4	HAZARD		
STANAG 4420	*X*PMKSM_ _	1.1.6.4.1	SEA MINELIKE	UF	
STANAG 4420	*X*PMKNA_ _	1.1.6.4.2	NAVIGATIONAL	UF	
STANAG 4420	*X*P*OR_ _ _	1.1.6.4.3	OILRIG	UF	
SWG	*X*P*IB_ _ _	1.1.6.4.4	ICEBERG	UF	
STANAG 4420	*X*PMKSN_ _	1.1.6.5 1.1.6.5 1 1.1.6.5 2 1.1.6.5 3 1.1.6.5.4	STATION -PICKET -ASW SHIP -ASW SUBMARINE -RESCUE	UF	
		1.1.6.6	UNDERWATER		

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
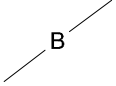
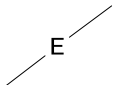
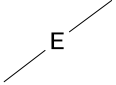
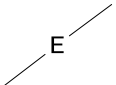
SOURCE	ICON ID	HIERARCHY	DESCRIPTION	F R A M I N G	ICON
STANAG 4420	*X*PFXDA_ _	1.1.6.6.1	DATUM	UF	
STANAG 4420	*X*PCPUW_ _	1.1.6.6. 2 1.1.6.6. 3	BRIEF CONTACT LOST CONTACT	UF	
STANAG 4420	*X*PMKSI_ _	1.1.6.6.4	SINKER	UF	
		1.1.6.7	WEAPON		
STANAG 4420	*X*PCPAP _ _	1.1.6.7.1	AIM POINT	UF	
STANAG 4420	*X*PCPDP_ _	1.1.6.7.2	DROP POINT	UF	
STANAG 4420	*X*PCPEP_ _	1.1.6.7.3	ENTRY POINT	UF	
STANAG 4420	*X*PMKGZ _ _	1.1.6.7.4	GROUND ZERO	UF	

SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*X*PMKMS_ _ _	1.1.6.7.5	MSL DETECT POINT	UF	
STANAG 4420	*X*PMKIP_ _ _	1.1.6.7.6	IMPACT POINT	UF	
STANAG 4420	*XAPMKIP_ _ _	1.1.6.7.7	PREDICTED IMPACT POINT	UF	
		1.1.6.8	SONOBUOY		
STANAG 4420	*X*PMKSO_ _ _	1.1.6.8. 1 1.1.6.8. 2 1.1.6.8. 3 1.1.6.8. 4 1.1.6.8. 5 1.1.6.8. 6 1.1.6.8. 7 1.1.6.8. 8 1.1.6.8. 9 1.1.6.8.10	PATTERN CENTER DIFAR LOFAR CASS DICASS BT ANM VLAD ATAC RO	UF	
STANAG 4420	*X*PMKKP_ _ _	1.1.6.8.11	KINGPIN	UF	
STANAG 4420		1.1.6.9	FORMATION	UF	

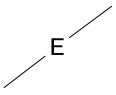
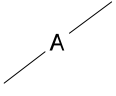
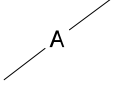
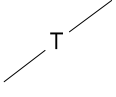
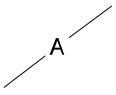
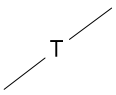
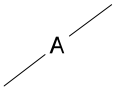
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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*X*PMKSP_ _	1.1.6.10 1.1.6.10.1 1.1.6.10.2 1.1.6.10.3 1.1.6.10.4	HARBOR -POINT Q -POINT A -POINT Y -POINT X	UF	
STANAG 4420	*X*PMKSP_ _	1.1.6.11 1.1.6.11.1 1.1.6.11.2 1.1.6.11.3 1.1.6.11.4 1.1.6.11.5	ROUTE -RENDEZVOUS -DIVERSIONS -WAYPOINT (GPS) -PIM -POINT R	UF	
STANAG 4420	*X*PCPMS_ _	1.1.6.12 1.1.6.12.1 1.1.6.12.2	SEARCH -SEARCH AREA -DIP POSITION	UF	
STANAG 4420	*X*PCPSC_ _	1.1.6.12.3	SEARCH CENTER	UF	
		1.1.6.13.	AIR CONTROL		
STANAG 4420	*X*PMKCA_ _	1.1.6.13.1	CAP	UF	
STANAG 4420	*X*PAE_ _ _ _	1.1.6.13.2	AEW	UF	

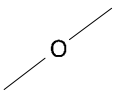



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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*X*PCPAP_ _	1.1.6.13.3 1.1.6.13.4 1.1.6.13.5 1.1.6.13.6 1.1.6.13.7 1.1.6.13.8 1.1.6.13.9 1.1.6.13.10 1.1.6.13.11 1.1.6.13.12	TACAN TANKING ASW F/W ASW HELO TOMCAT RESCUE REPLENISH MARSHAL STRIKE IP CORRIDOR TAB	UF	
STANAG 4420	*X*BBR _ _ _ _	1.1.7	BEARING	UF	
STANAG 4420	*X*BEM _ _ _ _	1.1.7.1	EM INTERCEPT	UF	
STANAG 4420	*X*BEM _ _ _ _	1.1.7.1.1 1.1.7.1.1.1 1.1.7.1.1.2 1.1.7.1.1.3 1.1.7.1.1.4 1.1.7.1.1.5 1.1.7.1.1.6 1.1.7.1.1.7 1.1.7.1.1.8	ESM RADAR -EC CONV -FC -3 D -2 D -DOPPLER -CONTINUOUS WAVE -MSL SEEKER -TRACK-WHILE SCAN (TWS)	UF	
STANAG 4420	*X*BEM _ _ _ _	1.1.7.1.2 1.1.7.1.2.1 1.1.7.1.2.2 1.1.7.1.2.3 1.1.7.1.2.4 1.1.7.1.2.5 1.1.7.1.2.6 1.1.7.1.2.7	ESM COMMS VOICE KEYED TELEGRAPH TELETYPE DATALINK TV MULTIPLEX TARGETING LINK	UF	

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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
STANAG 4420	*X*BEM _ _ _ _	1.1.7.1.3	ECM	UF	
STANAG 4420	*X*BAI _ _ _ _	1.1.7.2	ACOUSTIC INTERCEPT	UF	
		1.1.7.2.1	SONAR		
STANAG 4420	*X*BAI _ _ _ _	1.1.7.2.1.1 1.1.7.2.1.2 1.1.7.2.1.3	SHIP HELO BUOY	UF	
STANAG 4420	*X*BTO _ _ _ _	1.1.7.2.1.4	TORPEDO	UF	
		1.1.7.2.2	PROPULSION		
STANAG 4420	*X*BAI _ _ _ _	1.1.7.2.2.1 1.1.7.2.2.2 1.1.7.2.2.3	TURBINE DIESEL NUCLEAR	UF	
STANAG 4420	*X*BTO _ _ _ _	1.1.7.2.2.4	TORPEDO	UF	
		1.1.7.2.3	COMMUNICATION		
STANAG 4420	*X*BAI _ _ _ _	1.1.7.2.3.1 1.1.7.2.3.2	UWT KEYED SONAR OTHER	UF	

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SOURCE	ICON ID	HIERARCHY	DESCRIPTION	FRAMING	ICON
		1.1.7.3	ELECTRO-OPTICAL INTERCEPT		
STANAG 4420	*X*BEO _ _ _ _	1.1.7.3.1 1.1.7.3.2 1.1.7.3.3 1.1.7.3.4	VISUAL LLTV LASER INFRARED	UF	
STANAG 4420	*S*MOW _ _ _	1.1.8....	OWN TRACK	UF	
STANAG 4420	*S*MNG _ _ _ _	1.4.3	NAVY GROUP	F	
STANAG 4420	*S*MTF _ _ _ _	1.4.3.1	NAVY TASK FORCE	F	TF
STANAG 4420	*S*MTG _ _ _ _	1.4.3.2	NAVY TASK GROUP	F	TG
STANAG 4420	*S*MTU _ _ _ _	1.4.3.3	NAVY TASK UNIT	F	TU
STANAG 4420	*S*MCO _ _ _ _	1.4.3.4	CONVOY	F	

5.5 Lines, areas, and obstacles. This section addresses battlefield geometry which will be identified by its own set of symbol codes. Symbol coding is provided in Appendix B.

5.5.1 Lines. A number of situations exists in which lines are used to display operational information. Included in this section are examples of boundaries, phase or coordination lines, fortified lines, and unspecified obstacle lines.

5.5.1.1 Boundaries. Boundaries are marked by a solid line with the size of the unit interposed at convenient intervals. The numerical designation of units (supplemented if necessary by the national distinguishing letters in brackets) may be placed on either side of the size symbols to indicate which formations are separated by this boundary. When a boundary separates units of unequal size, the symbol for the larger unit normally will be used. However, unit rear boundaries will show the size symbol of the unit concerned and not the size symbol of the formation commanding that unit. When the unit concerned does not correspond to the size symbol placed on its boundary, its numerical designation must be supplemented by its size designation. (Note: Country codes from Joint Pub 6-04 are used to distinguish units from different countries.)

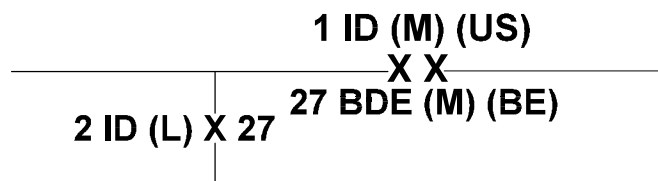


FIGURE 5. Unit boundaries.

If independent units of unequal size share a boundary, two size symbols will be shown, one on each side of the boundary.

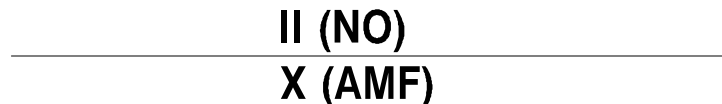


FIGURE 6. Shared boundaries.

5.5.1.2 Front Line of Own Troops (FLOT). The front line trace of unit positions is marked by a series of curved lines with the convex side of the symbol is towards the enemy. The position of each curve does not necessarily mark the location of a combat element.



FIGURE 7. Front line of own troops.

5.5.1.3 Forward Edge of the Battle Area (FEBA). The FEBA is used to show the forward limit of the main battle area.



FIGURE 8. Forward edge of the battle area.

Other phase or coordination lines are marked by the normal symbol for a **line**, with a line indicator and supplementary information at appropriate intervals. Generally they follow grid references or some terrain feature. Table 12 provides a partial list of line indicators that may be used.

TABLE 12. Partial list of line indicators.

Line Indicators	Designator
Bridgehead line	BRHD
Communication zone	COMMZ
Fire support coordination line	FSCL
Forward combat zone	FCZ
Forward edge of battle area	FEBA
Forward line of enemy troops	FLET
Forward line of own troops	FLOT
Line of departure/start line	LD/SL
Main supply route	MSR
No fire line	NFL
Objective	OBJ
Phase line or coordination line	PL
Rear combat zone	RCZ
Report line	RL

Figure 9 demonstrates the use of a coordination line using the Line of Departure (LD) as an example.

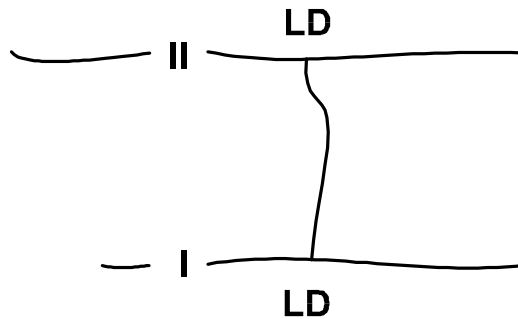


FIGURE 9. Line of departure.

A fire support coordination line (FSCL) is designated by a line extending across the assigned areas of the establishing headquarters. The indicator of the establishing headquarters is shown after the letters FSCL. Figure 10 depicts an FSCL effective from 050030Z APR.

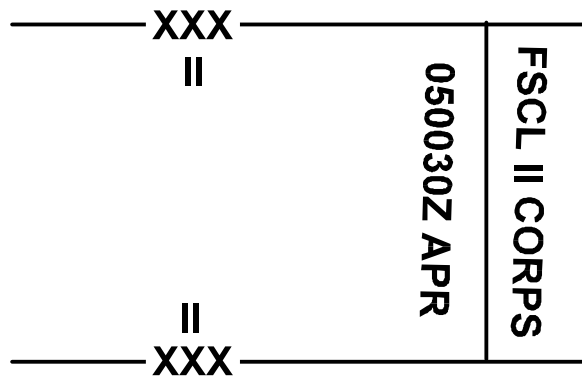


FIGURE 10. Fire support coordination line (FSCL).

5.5.1.4 Fortified line. A fortified line is represented in Figure 11 (with notches repeated at appropriate intervals).



FIGURE 11. Fortified line.

5.5.1.5 Unspecified obstacle line. An unspecified obstacle line is represented by appropriately spaced "wedges" as shown in Figure 12.



FIGURE 12. Unspecified obstacle line.

5.5.1.6 Ice edge. The ice edge symbol is used to represent the edge of an ice field or ice barrier.



FIGURE 13. Ice edge.

5.5.2 Areas. An area is a delimited portion of terrain or space having its own features by virtue of its nature or the activities going on within it. A position is an area from which it is intended to fight.

5.5.2.1 Concentric area. The concentric area is used to depict radiological contamination. It consists of one or more rings. Each ring consists of a line interrupted by a letter/figure combination. The minimum safe distances from ground zero of one or more nuclear explosions are shown by using the abbreviation for Minimum Safety Distance (MSD) 1, 2, or 3 (e.g., MSD 1, MSD 2, or MSD 3). Figure 14 demonstrates the use of a concentric area displaying levels of radioactivity indicated in **centigrays** per hour.

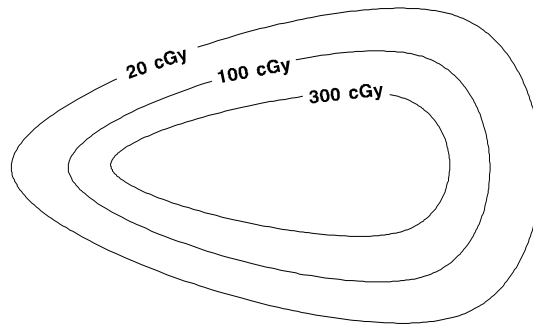


FIGURE 14. Concentric area.

5.5.2.2 Reconnaissance area. The reconnaissance area is used to depict the area within which a unit or formation is responsible for reconnaissance. As shown in figure 15, the points of the arrows indicate the width of that area but *not* its forward edge.

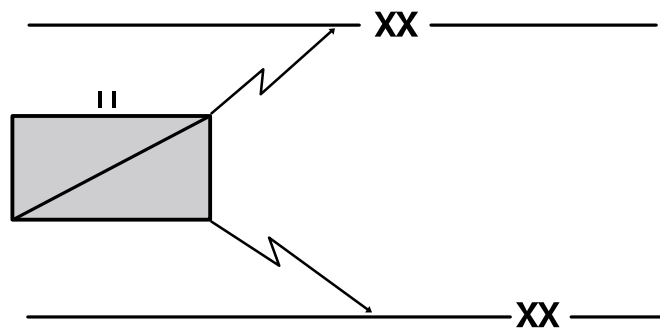


FIGURE 15. Reconnaissance area.

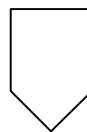
5.5.2.3 Specified area. A specified area is an area assigned to or occupied by a unit for some specific purpose, such as a parachute drop zone. It also may be an area that has been delineated for some specific purpose, such as nuclear contamination. These are depicted by a *continuous line plus an area indicator*. A symbol depicting any unit or installation assigned to or occupying the area may be added inside the area or attached to it by a vector.

5.5.2.3.1 Limited access. Designation of the type of limited access may be either by wording or by symbol. Words that indicate areas which it is inadvisable to enter are listed in Table 13.

TABLE 13. Limited access areas.

Area	Designator
Contaminated biologically	BIO
Contaminated with chemical (in liquid or similar form)	CHEM
Contaminated with gas (vapor hazard area)	GAS
Impassable	IMPAS
Inundation	INUND
Minefield	MINE
Obscured by smoke	SMOKE
Radioactive	ATOM
Shelled or bombed	SHELL

The basic symbol denoting limited access is:



Superimposed on the basic symbol are other symbols to indicate to what personnel or equipment the area is impassable. Figure 16 shows the use of a limited access area symbol depicting an area impassable to infantry due to chemical contamination.

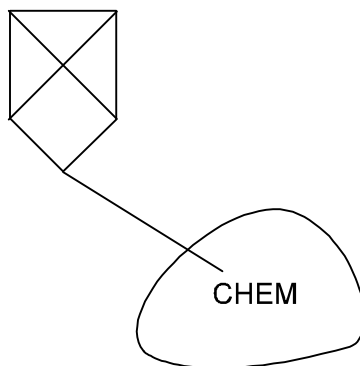


FIGURE 16. Limited access area.

5.5.2.3.2 Usage of area. The areas most commonly used are listed in Table 14. If others are used, they must be explained in a legend.

TABLE 14. Area usage.

Area	Designator
Assembly area	ASSY
Brigade Support Area	BSA
Concentration	CONC
Division Support Area	DSA
Drop zone	DZ
Dump	DUMP
Extraction zone	EZ
Hide area	HIDE
Intermediate objective	I/OBJ
Key terrain	KEY
Landing zone	LZ
Logistic area	LOG
Objective	OBJ
Obscured by smoke	SMOKE
Shelled or bombed	SHELL
Unoccupied but prepared for a purpose	U/ (Note: Used in conjunction with one of the other indicators)

Figure 17 shows an example of area use designation.

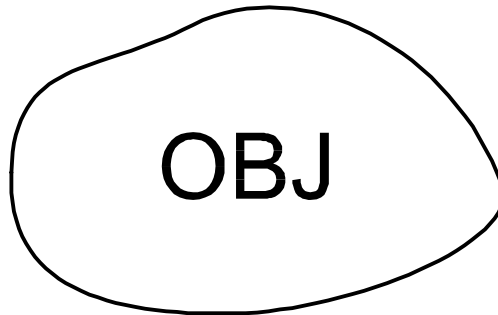


FIGURE 17. Area usage.

5.5.2.4 Unspecified area. An area of ground that requires delineation for any reason, but does not show a specific purpose. It is depicted by a continuous enclosing line. A symbol depicting any unit/installation assigned/occupying the area may be added inside the area or attached by vector.

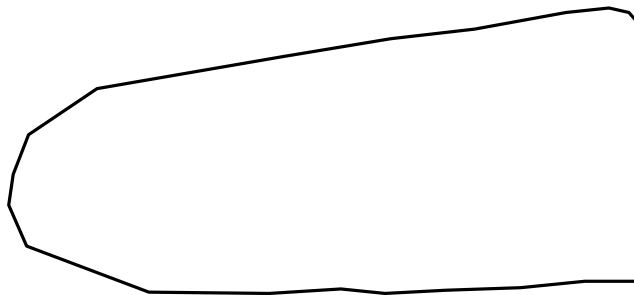


FIGURE 18. Unspecified area.

5.5.2.5 Airspace control.

5.5.2.5.1 Airspace coordination area (ACA). The airspace coordination area is represented by the general **ACA** symbol outlined by a rectangle.

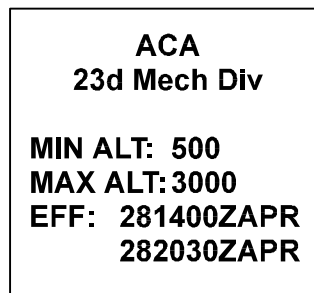


FIGURE 19. Airspace coordination area (ACA).

5.5.2.5.2 Air corridor.

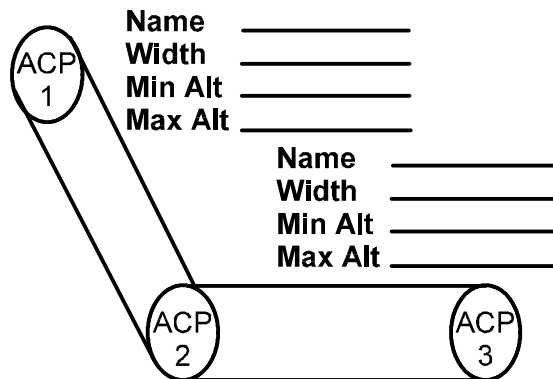


FIGURE 20. Air corridor.

5.5.2.5.3 Low level transit route.



FIGURE 21. Low level transit route.

5.5.2.5.4 Minimum risk route.



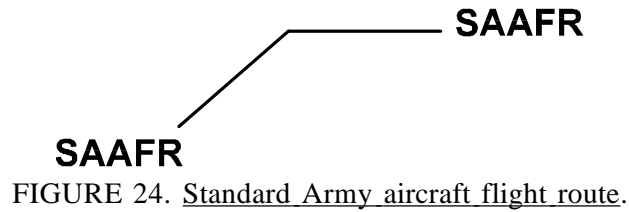
FIGURE 22. Minimum risk route.

5.5.2.5.5 Remotely piloted vehicle route.

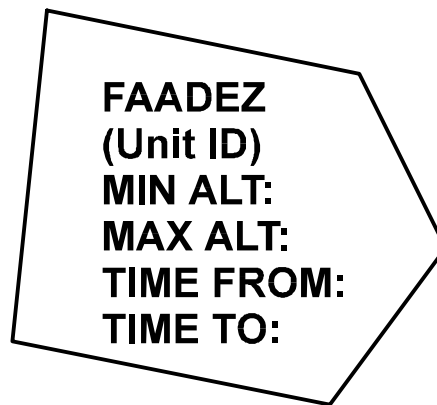


FIGURE 23. Remotely piloted vehicle route.

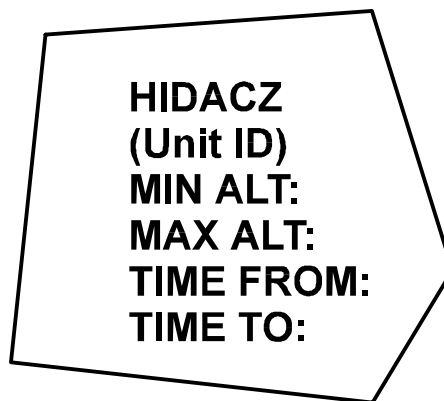
5.5.2.5.6 Standard Army aircraft flight route.



5.5.2.5.7 Forward area air defense zone.



5.5.2.5.8 High density airspace control zone.



5.5.2.5.9 Missile engagement zone.

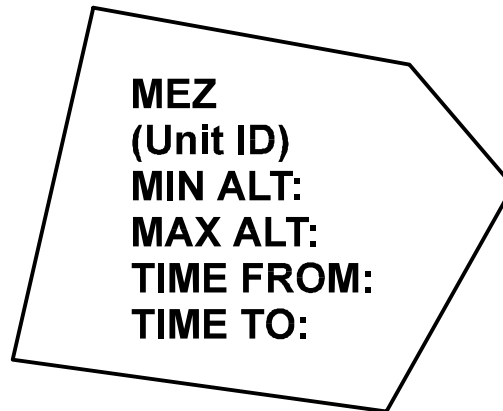


FIGURE 27. Missile engagement zone.

5.5.2.5.10 Restricted operations zone.

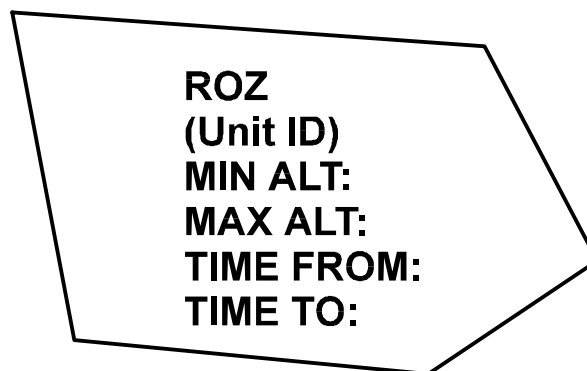


FIGURE 28. Restricted operations zone.

5.5.2.5.11 Weapons free zone.

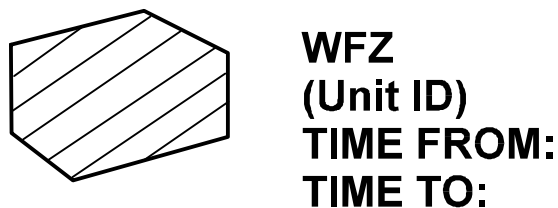


FIGURE 29. Weapons free zone.

5.5.2.6 Positions. A position is an area from which fighting is intended. A size indicator is inserted in the line delineating the position, to show that it is a **Position** and not an **Area**. This size indicator is to be inserted in the side nearest **own** troops. A symbol representing any unit or installation assigned to or occupying the position may be added inside the position or attached to it by a vector.

5.5.2.6.1 Battle position.

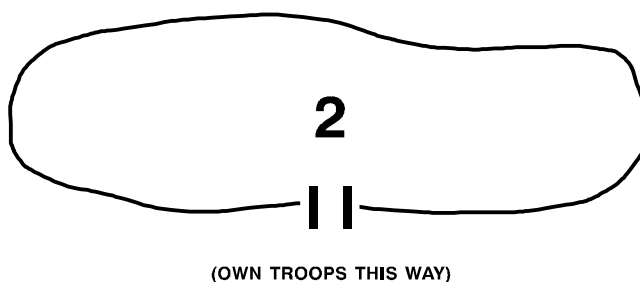


FIGURE 30. Battle position.

5.5.2.6.2 Firing position.

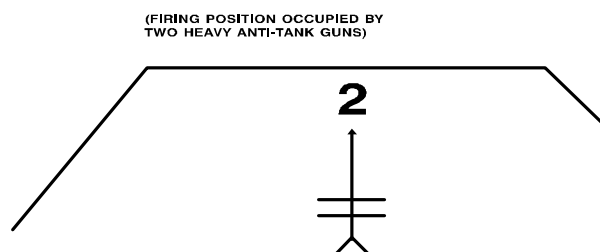


FIGURE 31. Firing position.

5.5.2.6.3 Strong point.

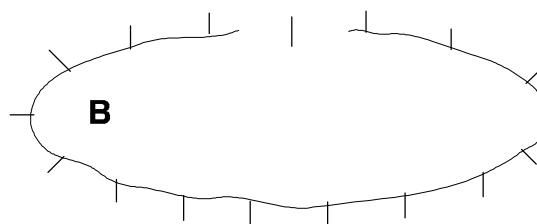


FIGURE 32. Strong point.

5.5.2.7 Arc of fire. Broken lines should be used to indicate a proposed arc, and solid lines to indicate current status. If required, a "hook" may be added at the end of the arc to indicate the maximum effective range of the weapon in that position.

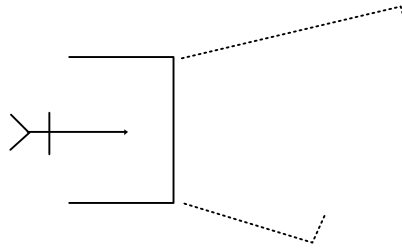


FIGURE 33. Arc of fire.

5.5.3 Obstacles. Obstacles are divided into two categories, either **Point** or **Linear**. Point obstacles are represented by a small circle with an indicator superimposed. Normally, linear obstacles are identified by the actual outline of the obstacle; e.g. a minefield or antitank ditch normally will be drawn to scale at the precise location of the obstacle. Typical obstacle indicators are "abatis or tree blow down," "booby trap," "nonexplosive antitank," or "trip wire."

5.5.3.1 Point obstacles. The demolition point obstacle symbol should be drawn over the precise grid reference of the obstacle.

5.5.3.2 Linear obstacles.

5.5.3.2.1 Antitank ditch. A line with a 'V' shape attached indicates an antitank ditch in preparation; if the "V" is solid, it indicates completed.

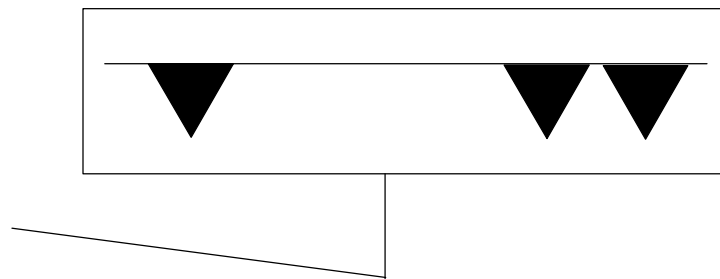


FIGURE 34. Antitank ditch.

5.5.3.2.2 Wire obstacle. A wire obstacle is represented by a line with "X" repeated at intervals. If the obstacle is in preparation, a broke n line will be used. If it is an enemy obstacle, "EN" will be shown.



FIGURE 35. Wire obstacle.

5.5.3.2.3 Minefields. The mine type symbols shown in Figures 36 and 37 will be used in the configuration of either a **protective** or **tactical** minefield.

5.5.3.2.3.1 Protective Minefield.

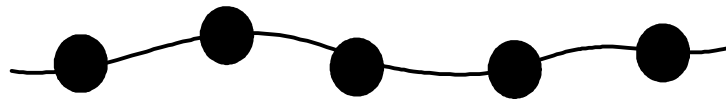


FIGURE 36. Protective minefield.

5.5.3.2.3.2 Tactical Minefield.

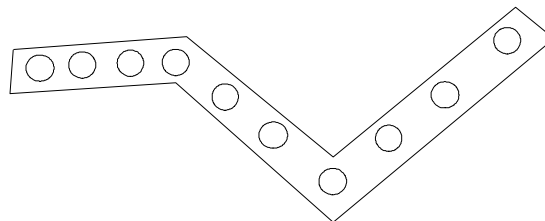


FIGURE 37. Tactical minefield.

5.6 Fire support planning graphics. This section contains specific graphics used in fire support planning. Fire planning symbols follow the rules for either points or lines.

5.6.1 Concentrations and barrages. Concentrations are normally identified by letter prefix and number. Additionally, concentrations may be labeled to show the type of target, type of weapon and fires, duration and time of fires, and the unit designated to fire the mission.



FIGURE 38. Concentrations.

Barrages are usually plotted to scale and shown as a rectangle. The unit designated to fire the barrage may be indicated inside the rectangle.

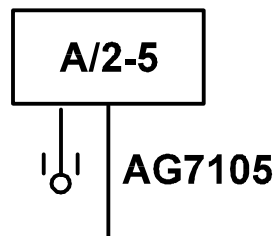


FIGURE 39. Barrages.

An example of a linear concentration is provided in figure 40.

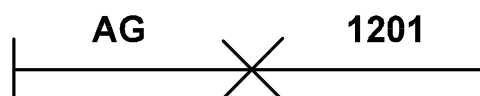


FIGURE 40. Linear concentration.

5.6.2 Targets and final protective fires. Targets are represented by one of the following examples in figures 41 through 47. Targets are normally designed using two letters followed by four numbers.

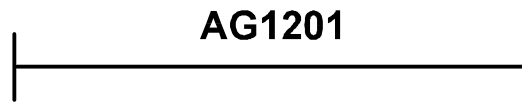


FIGURE 41. Linear concentration.

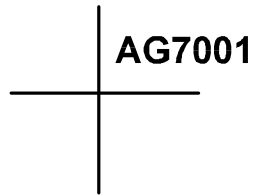


FIGURE 42. Single target.

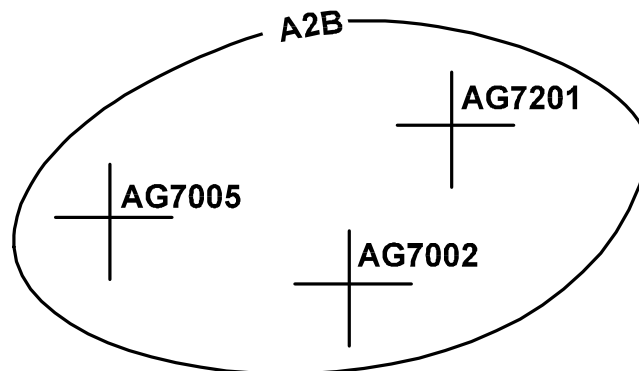


FIGURE 43. Group of targets.

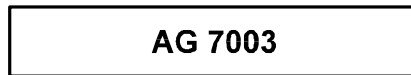


FIGURE 44. Rectangular target.

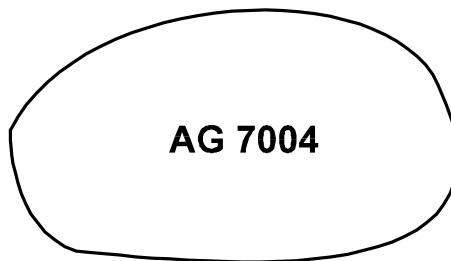


FIGURE 45. Area target.

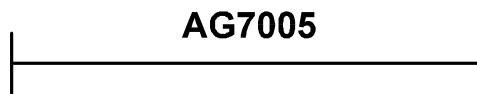


FIGURE 46. Final protective fire.

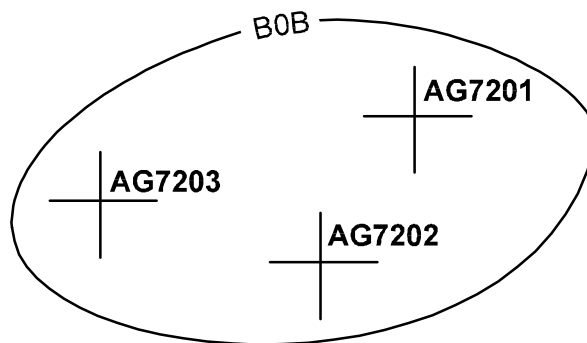


FIGURE 47. Targets fired in series.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Subject term (key word) listing:

Affiliation
Area
Basic type
Battle dimension
Bearings
Chromaticity
Coding scheme
Color
Embedded icon
Hierarchy
Icon placement
Lines
Luminance
Obstacles
Point
Position
Status
Symbol composition
Symbol display
Symbol plotting